# ENVIRONMENTAL ASSESSMENT
# LIVESTOCK GRAZING AUTHORIZATION
# EA Number: CA-650-2004-38
# Allotment Name: Rudnick Common Allotment

**Bureau of Land Management**
**Ridgecrest Field Office**
**February 20, 2007**

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## APPENDICES

## CHAPTER 1: INTRODUCTION

### A. Summary

The Bureau of Land Management (BLM) is proposing to issue two, 10 year term permits on the Rudnick Common allotment to authorize livestock grazing in accordance with laws and policy described in the Purpose and Need section below. The Rudnick Common Allotment is located southwest of Ridgecrest, California in Kern County. U.S. Route 14 bounds the allotment on much of its southern and eastern sides and the allotment extends north through Kelso Valley to the vicinity of SR 178.

Acres in the allotment: 241,786
Acres of public land: 163,842
Acres of private land: 77,944
Kind of livestock: cattle
Type of grazing: perennial/ephemeral
Plan area: West Mojave (WEMO)
Current authorized use: 6,897 AUMs, on two permits
Acres of Threatened/Endangered Species Critical Habitat : None
Acres of Area of Critical Environmental Concern: 155,435
Identified for Voluntary Relinquishment: Yes

### B. Background

Two grazing permits for cattle operations on the Rudnick Common Allotment expired at the end of the 1998 grazing year (2/28/1999) and the 1999 grazing year (2/28/00). These two grazing permits were renewed under the authority of Public Law 106-113. The duration of the grazing permits renewal was 10 years based on factors that included rangeland health condition. Grazing permits contained the same terms and conditions as the expiring grazing permits. Public Law 106-113 required compliance with all applicable laws and regulations, which include the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA). Following the analysis of environmental impacts these grazing leases may be canceled, suspended or modified, in whole or in part, to meet the requirements of such applicable laws and regulations.

On January 29, 2001 the BLM and a consortium of environmental groups entered into a stipulated agreement effective immediately, herein known as the "Settlement Agreement" for the management of livestock grazing. The Settlement Agreement prescribed 31,000 acres of the Rudnick Common Allotment is excluded from cattle grazing in the spring and fall, from March 1$^{st}$ through June 15$^{th}$ , and from September 7$^{th}$ through November 7$^{th}$ , respectively. Based on the Settlement Agreement, these stipulations were to remain in effect until the signing of the Record of Decision (ROD) for the West Mojave Plan Amendment (WEMO) to the CDCA Plan. The ROD for WEMO was approved on March 13, 2006, and the stipulations for the Rudnick Common Allotment and other allotments within the West Mojave planning area that were identified in the Settlement Agreement expired at that time.

### C. Tiering to Existing Land Use Plan/EIS

This Environmental Assessment (EA) is tiered to the West Mojave Plan (WEMO) Final EIS of (January 2005) and provides site-specific analysis on the allotment level. Tiering helps focus this EA more sharply on the significant issues related to grazing on this allotment while relying on the WEMO analysis for background. Analysis of environmental issues previously considered and addressed in the WEMO plan will be incorporated by reference. The site-specific issues analyzed for this allotment, as well as the issues that are incorporated by reference but will not be analyzed in detail, are identified in chapter 3 of this EA.

A summary of the analysis tiered in this EA is as follows:

1. WEMO is an amendment to the California Desert Conservation Area (CDCA) Plan developed expressly to address special status plant and animal species and to establish conservation strategies for those species within the multiple use context required for the CDCA by section 601 of the Federal Land Management and Policy Act (FLPMA). As part of the conservation strategy BLM determined which public lands will be available or unavailable for livestock grazing. Livestock grazing in the CDCA is an economic resource of public lands recognized in section 601 of FLPMA. In addition to designating lands available or unavailable for grazing, the Northern & Eastern Mojave Desert Management Plan (2002) (NEMO), the Northern & Eastern Colorado Desert Coordinated Management Plan (2002) (NECO) and WEMO established programmatic management prescriptions including regional land health standards and guidelines for grazing management; utilization prescriptions for perennial species; restrictions on sheep grazing within tortoise habitat; monitoring requirements; and specific management prescriptions for Desert Wildlife Management Areas (DWMAs) such as the significant reduction of ephemeral authorizations and the implementation of an ephemeral forage production threshold of 230 pounds per acres (pg 2-130 from WEMO FEIS). This EA analyzes the specific application of the programmatic management prescriptions of WEMO and considers alternative means to achieve the purpose and need on these allotments as described in section C of this chapter.

2. This EA analyzes the range of alternatives for grazing consistent with WEMO, including a proposed action and continuation of current management (No Action). A no grazing alternative is considered to address voluntary relinquishment and subsequent designation of the allotment as unavailable for grazing. Chapter 2 of this EA describes the alternatives analyzed in detail and identifies the alternatives considered but dismissed from detailed consideration.

3. Impacts of livestock grazing were addressed at a regional level in WEMO. Analysis addressed the impacts of livestock grazing on a wide range of resource topics, including impacts to air quality, soil, vegetation, wildlife, cultural resources, wilderness, and socio-economic impacts. The regional analysis is incorporated by reference in this EA (pg 3-1 through 3-294; WEMO FEIS) but general discussion of these impacts will not be repeated. The EA analysis will sharply focus on the specific environmental issues associated with areas where livestock congregate on the allotment, specific areas of the allotment which are not meeting land health standards due to grazing, and areas of special status species or critical habitat that may be affected by grazing on this allotment. Discussion of the specific topics analyzed in this EA, as well as other resource topics addressed regionally but that will be excluded from further analysis in the EA, is contained in chapter 4.

4. WEMO balances conservation with public use, occupancy, and development on a regional level. For example, Areas of Critical Environmental Concern (ACECs/DWMAs are established, routes of travel on public lands designated open, limited or closed to motorized vehicles, and other management prescriptions are provided to guide multiple use management. Within the context of the CDCA Plan as amended by WEMO, BLM is proposing specific lease terms and conditions to ensure that an appropriate multiple use balance is maintained on these allotments while providing for conservation in accordance with WEMO and the associated biological opinion. In addition, BLM may use its authority to close an area of the allotment to grazing use or take other measures to protect resources if needed. Therefore, issuance of a fully processed grazing lease with such applicable terms and conditions is necessary to manage the public's use, occupancy, and development of the public lands and prevent unnecessary or undue degradation of the lands (43 USC 1732(b)).

**D. Purpose and Need for the Proposed Action**

The purpose of the proposed action is to complete a site-specific evaluation of grazing that provides information to be analyzed by the BLM in conformance with the implementing regulations for the NEPA (40 CFR Part 1500), FLPMA, BLM grazing regulations (43 CFR Part 4100), and Public Law 106-113 section 325 to determine whether to authorize grazing within this allotment and whether changes are necessary to current management of the allotment.

The need for the proposed action is to authorize grazing for this public land grazing allotment in compliance with the prescriptions prescribed in the WEMO, dated January, 2005, the Biological Opinion for the California Desert Conservation Area Plan, dated March 31, 2005, and the proposed Regional Rangeland Health Standards.

**E. Plan Conformance**

The proposed action is in conformance with to the following plans:

The California Desert Conservation Area Plan (CDCA Plan), as amended. The decisions of the CDCA plan that specifically pertain to this proposed action are included under the Livestock Grazing Element, page 67.

The CDCA Plan Amendment for the West Mojave Desert region (WEMO). The decisions of the WEMO plan that specifically pertain to this proposed action are included within this under the Proposed Action.

The Rangeland Health Assessment has been completed on the Rudnick Common allotment.

The allotment does (does not) meet the Secretary of Interior Approved Rangeland Health Standards as follows:

| Rangeland Health | Meets | Does Not | Impacts from | Remarks |
|---|---|---|---|---|

| Standard | Standard | Meet Standard | Livestock Yes or No | |
|---|---|---|---|---|
| Soil Permeability | met | | | |
| Riparian/Wetland | | Not met | Yes | Trampling damage and over consumption compounded by salt cedar and OHV use |
| Stream Morphology | | Not met | Yes | Trampling of stream banks leading to widening of channel |
| Native Species | | Not met | No | |

September 20, 2004, determination finalized.

Rangeland Health Fall Back Standards and Guidelines for Livestock Grazing remain in effect until CDD S&G are approved by Secretary.

**F. Voluntary Relinquishment**

WEMO identifies seven allotments with the Ridgecrest Field Office area for voluntarily relinquishment; Boron, Bissell, Cantil Common, Monolith Cantil, Rudnick Common, Lava Mountain, Spangler Hills. Voluntary relinquishment of the grazing permit/lease for these seven allotments, in combination with designation of the public lands as unavailable for livestock grazing, is an important method for achieving conservation goals for special status species identified in the WEMO plan amendment. BLM's decision to identify these allotments for voluntary relinquishment in the WEMO plan amendment and subsequent designation of the public lands as not available for grazing was based on criteria set forth in the BLM land use planning handbook, H-1601-1, Appendix C.

Voluntary relinquishment and designation as unavailable for grazing would only occur where BLM determines that the action will result in direct conservation benefits for special status species as provided in WEMO. A grazing decision on the voluntary relinquishment request will be issued based on the site-specific analysis of this EA and other required procedures of BLM's 4160 regulations. Upon relinquishment and issuance of the final grazing decision, BLM will, without further analysis or notice: not reissue the permit/lease; remove the allotment designation; assume any and all private interest in range improvements located on public lands; and designate the land within the allotment as unavailable for livestock grazing. A separate plan amendment or revision will not be required.

**G. Consultation, Cooperation, & Coordination**

1. <u>Interdisciplinary Team Members:</u>

David Sjaastad, Interdisciplinary Team Leader
Sam T. Fitton, Grazing Management
Donald Storm, Cultural Resources
Glenn Harris, Botany, Soil, Air & Water Resources
Bob Parker, Wildlife Management
Shelley Ellis, Wildlife Management
Martha Dickes, Wilderness
Craig Beck, Recreation
Peter Graves, NEPA

The BLM consulted with the following individuals, Federal, state and local agencies, tribes and non-BLM persons during the development of this environmental assessment.

2. Agency Participation

Wildlife agencies: BLM initially submitted copies of the proposed action to the California Department of Fish and Game and the U. S. Fish and Wildlife Service, basically initiating informal consultation. BLM followed up with more complete copies of the Environmental Assessments asking for comments. Neither of these agencies responded with comments, as their workload likely precluded this. In April of 2006 BLM requested written concurrence from the USFWS that the proposed grazing decision for sheep grazing (and the other grazing decisions) is within the scope of the project description and analysis of the 2006 biological opinion

3. Consultation, Coordination, and Cooperation (CCC)

Consultation, Coordination, and Cooperation with Affected Interests groups, Interested Public groups, and other Government Agencies has taken place from the spring of 2004 through the present in the summer of 2006. This environmental assessment was not being worked on in 2005, therefore, no CCC is recorded for that year. The Affected Interest groups consist of The Rudnick Trust and Onyx Mountain Cattle Company, the permittees, and no written responses have been forthcoming from them. Government agencies included the US Fish and Wildlife Service, the California Department of Fish & Game, the Lahontan RWQCB, and the California State Lands Commission. To date, only the CDF&G has responded and that was to individual specialists who had specific questions. The CDF&G has not responded to the full environmental assessment document. Interested public groups to which the document was submitted included environmental groups and a few individuals. Initially, the Desert Tortoise Preserve Committee, The California Native Plant Society, The Western Watersheds Project and The Center for Biological Diversity responded with comments. Native American tribes in the area have been contacted but have not responded.

**H. Relationship to Statutes, Regulations, and Plans**

1. State Historic Preservation Office Protocol Amendment for Renewal of Grazing Leases

In August 2004, the State Director, California Bureau of Land Management and the California State Historic Preservation Officer (SHPO) addressed the issue of the National Historic Preservation Act (NHPA) Section 106 compliance procedures for processing grazing permit lease renewals for livestock as defined in 43 CFR 4100.0-5. The State Director and the SHPO amended the 2004 State Protocol Agreement between California Bureau of Land Management and the SHPO with the 2004 Grazing Amendment, Supplemental Procedures for Livestock Grazing Permit/Lease Renewal (see Appendix 5).

This amendment allows for the renewal of existing grazing permits as long as the 2004 State Protocol direction, the BLM 8100 Series Manual Guidelines, and specific amendment direction for planning, inventory methodology, tribal and interested party consultation, evaluation, effect, treatment, and monitoring stipulations are followed.

The permittee would comply with any future standard protective measures that may be developed for the protection of cultural resources after the completion of further allotment inventory and determination of any additional protection measure needs for significant cultural resources.

2. Biological Opinions on the California Desert Conservation Plan

BLM will ensure compliance with the Incidental Take Statement (ITS) of the biological opinion on the West Mojave CDCA Plan Amendment. BLM will immediately report any injuries or mortality to desert tortoises as a result of grazing to the U.S, Fish and Wildlife Service (USFWS). The BLM and the USFWS will review the circumstances to determine if any additional protective measures are required. The BLM will compile any instances of take of the desert tortoise due to grazing activities and report annually to the USFWS. If the annual level of take reaches five tortoises for all the allotments in the WEMO and NEMO CDCA Plan Amendment areas, BLM will meet with USFWS to determine if re-initiation of consultation is necessary on the grazing aspect of the plan.

## CHAPTER 2

## PROPOSED ACTION AND ALTERNATIVES

### A. PROPOSED ACTION

This alternative was developed after a review of resource issues and conditions found on the Rudnick Common allotment. Monitoring requirements, mitigation measures, and permit terms and conditions developed in the resolution of issues are incorporated into this alternative to minimize potential impacts to resources while continuing to provide forage for livestock grazing. This alternative prescribes all measures that will be taken in addition to current management practices described in the No Action Alternative (Chapter 2, Sec. B) and the Livestock Grazing Critical Element (Chapter 3, Sec A).

As a result of a Rangeland Health Assessment and the Determination for Rudnick Common Allotment it was concluded that certain riparian areas were not meeting rangeland health standards. This proposed action is designed to meet those standards by incorporating

recommendations made in Recommended Prescribed Actions in Section 5 of the Rudnick Common Allotment Rangeland Health Determination and by incorporating the recommendations made in Chapter 3 of this environmental assessment. The recommendations encompass the seasonal suspension of grazing in certain riparian areas and the establishment of monitoring practices within riparian areas.

Furthermore, grazing in Rudnick Common will conform to the Livestock Grazing Amendment stipulations in order to protect cultural resources found on the allotment.

**1. <u>Livestock Numbers and Season of Use</u>**

Table 1 summarizes how the permits of Onyx Ranch and Onyx Mountain Cattle Co. would appear under the proposed action by showing the proposed number of cattle permitted based on the season of use and AUMs.

Table 1.

| Allotment & (Permittee) | Number | Kind | Class | From | To | AUMs |
|---|---|---|---|---|---|---|
| Rudnick Common (Oynx Ranch) | 739 | Cattle | Cow/calf | 3/1 | 8/31 | 3398 |
| | 738 | Cattle | Cow/calf | 9/1 | 2/28 | 3338 |
| (Onyx Mtn. Cattle Co.) | 6 | Cattle | Cow/calf | 3/1 | 2/28 | 70 |
| (vice, Kelso Cattle Co.) | 8 | Cattle | Cow/calf | 3/1 | 2/28 | 91 |

**2. <u>Livestock Management</u>**

Under the proposed action BLM proposes to authorize year long, cow/calf grazing operations to two permittees. Onyx Ranch would receive 6736 AUMs maximum and Onyx Mountain Cattle Co. would be permitted 70 AUMs. The 91 AUMs formally attached to the Kelso Cattle Company would be used through temporary non-renewable permit.

A best pasture grazing rotation would govern the management of Onyx Ranch livestock. Cattle would be rotated through six pastures but once a pasture has been used it would not be re-used until it has passed through the next spring growing season (March through May). Onyx Mountain Cattle company would use Pinyon well and Cane Canyon pastures but not in two consecutive spring growing seasons.

Under the Proposed Action, Sheep Troughs pasture would be included in the pasture rotation and would no longer be grazed year long as a separate entity. This would place six pastures in the grazing rotation and would increase the amount of rest that all pastures receive before they are grazed again. In the new rotation there would be six pastures for one herd instead of five

pastures with one herd and a separate pasture (Sheep Troughs) being grazed year long with another herd.

The Rudnick Common Allotment Management Plan (AMP) will be modified and further implemented to ensure:

a. all pastures (including Sheep Troughs pasture) will receive at least one growing season rest between use periods.

b. existing range improvements will be brought into functioning condition, maintained and upgraded where appropriate. Constructed proposed new projects to better distribute cattle in Aqueduct, Canyons, Kelso Valley, Dove Spring, and Bird Springs pastures

c. drift fences will be constructed as funding becomes available on Frog Pass, on Gold Peak into Butterbredt Valley, on Bird Springs Pass, and at the head of Willow Springs Canyon to reduce out of season grazing of vegetation from uncontrolled drift.

d. float valves will be installed in watering troughs where necessary to control water loss from water sources.

**3. <u>Range Improvements</u>**

The proposed range improvements enumerated in Section A.2.b & c and A.4.c & d of the Proposed Action would receive high priority for completion so as to better serve the rancher, the rotational grazing system, and the health of the riparian ecosystems involved. Other range improvements as listed in Appendix 3 would still be necessary in order to fully implement the Allotment Management Plan. When working in desert tortoise habitat, any hazards to desert tortoises that may be created, such as auger holes and trenches, would be eliminated, before the rancher, contractor, or work crew leaves the site.

**4. <u>Measures taken to Maintain or Achieve Standards</u>**

Portions of Rudnick Common Allotment did not meet Rangeland Health Standards in the categories of Wetland/Riparian and Stream Morphology because of cattle grazing. The following measures will be implemented to achieve the standards.

The BLM, under the authority of CFR 4180.1 which includes by reference subparts 4110, 4120, 4130, and 4160, will:

a. suspend grazing during the critical spring season of growth (3/1-5/31) in areas where riparian rangeland health standards have not been met;

b. establish utilization studies to include key riparian forage species. These species and their proper use factors are:

- Salt Grass (30%)
- Sedge (30%)
- Rushes (30%)

- Willow (10%)
- Cottonwood (10%)

The proper use factors (PUFs) for these species will act as thresholds which if met or exceeded will trigger the removal of livestock from the area. These actions will become addenda to the Rudnick Common Allotment Management Plan (AMP).

c. Exclosure fences will be constructed at the following riparian sites to increase seasonal flexibility for grazing. These sites are:

- Butterbredt Canyon (approximately 2 miles)
- In Hoffman Canyon (less than 1 mile)
- In Jawbone Canyon above the confluence of Cottonwood Creek (less than 1 mile)

d. Furthermore, exclosure fences will be constructed at the following sites to enhance riparian values:

- Kelso Creek (West – 1 mile)
- Kelso Creek (Mid < 1 mile)
- Kelso Creek (upstream – ½ mile)
- Kelso Creek & Woolstaff Creek (3/4 mile – in progress)
- Williams Spring (1/8 mile – project proposed)
- Willow Spring pond (project proposed)

**5. <u>Monitoring</u>**

The rangeland monitoring of this allotment will continue under this alternative, in three categories. These categories are 1) short term monitoring, 2) long term monitoring, and 3) interpreting the indicators of rangeland health through allotment assessments.

The use of short term monitoring would be the main tool to gauge the cause and effect of the current authorization. This type of monitoring consists of actual use, current climatic conditions and the collection of utilization data. This type of data would be collected on a yearly basis at minimum. The collection of utilization data will be carried out in two situations: (1) during the time that cattle are grazing to be sure they have not exceeded the threshold Proper Use Factor (PUFs) of key forage species; and (2) within two weeks of the time grazing has ceased on the pasture or allotment to determine the total utilization levels for the grazing season. (See table of Proper Use Factors (PUFs) for key forage species in the Ridgecrest Field Office Area, Appendix 3.)

The collection of long term monitoring data typically occurs approximately every ten years. The collection of trend data, both photo and measured trend is used to determine long term changes in the plant community. The collection of measured trend has typically been accomplished through the collection of frequency data at key areas

The collection of indicators of rangeland health information is a qualitative method that requires the formation of an interdisciplinary team that makes observations of various indicators to determine the health of rangelands and the achievement of fallback or regional

standards of rangeland health. This process is also considered a long term and will be repeated prior to renewing these two permits in ten years.

**6. <u>Prescriptions from Fish & Wildlife Service's Biological Opinion (1-8-03-F-58) & WEMO (Vol 1A, pp 2-124--2-128) Governing Grazing and Applicable to Rudnick Common</u>**

a. Only qualified personnel are allowed to handle desert tortoises, conduct clearance surveys, and monitor for desert tortoise compliance. Handling of desert tortoises by the lessee is prohibited.

b. The lessee is required to notify the Ridgecrest Field Office immediately upon any instance of "take" (as defined by the Endangered Species Act) of a desert tortoise.

c. The lessee is required to contact the Ridgecrest Field Office immediately if a desert tortoise is found injured or killed by human activities. Grazing may continue pending a review of the incident by the BLM and the U.S. Fish and Wildlife Service, provided all other stipulations of the lease have been adhered to.

d. In all areas occurring in tortoise habitat, ephemeral grazing will be authorized only when ephemeral production exceeds 230 pounds per acre (FWS B.O. (1-8-03-F-58) pg 26) & WEMO 2.2.5.3.2, pg 2-126, (LG-6); and

e. ….livestock utilization level of key perennial species in the Mojave Desert range type would not exceed 40 percent on ranges that are grazed during the dormant season and are meeting Standards. Rangelands that are grazed during the active growing season and are not meeting Standards shall not exceed 25 percent utilization of key forage species except as described in allotment management plans, decisions, or other management documents with a specific grazing strategy with prescribed level of perennial forage consumption.

f. Any new cattle guards (in desert tortoise habitat) would be designed and installed to prevent entrapment of desert tortoises. All existing cattleguards within tortoise habitat will be modified to provide escape opportunities for those tortoises which become trapped, falling through the grates.

g. Any hazards to desert tortoise that may be created, such as auger holes and trenches would be eliminated before the rancher, contractor, or work crew leaves the site.

h. Livestock will be managed in such a way that cultural resources will be protected.

i. All cattle carcasses found within 300 feet of a road or watering source shall be removed by the permittee and disposed of in an appropriate manner (i.e., not buried) within two days of being found or if this not practicable, such reasonable time as is acceptable to the BLM authorized officer. The permittee must seek prior authorization from the BLM's Authorized Officer before removal from designated wilderness areas.

Carcasses found farther than 300 feet from a road or watering source shall remain unless determined to be a hazard for reasons of health and safety.

j. If a permittee or their designate any hazards to desert tortoises such as auger holes and trenches, they will be eliminated before the rancher, contractor, or work crew leaves the site.

k. Cattle may remain past March 15 in expectation of ephemeral forage production over 230 pounds per acre. If this level of forage is not attained when weather conditions (e.g., warming of the soil) are appropriate, the lessee would substantially remove livestock from Designated Exclusion Areas until such time as 230 pounds per acre ephemeral forage is achieved or June 15 whichever is earlier. This determination will be made based on the evaluation and judgement of the BLM authorized officer. If cattle must be removed, the permittee will be given two weeks to remove them from the Designated Exclusion Area.

l. The term "substantially removed" recognized that a few individual cattle might wander into the Designated Exclusion Areas despite the lessee's best efforts and regardless of management facilities (e.g., fences , water sources) that are in place.

Other Proposed Prescriptions:

m. The permittee(s) is required to perform normal maintenance on all range improvements located on public land within the Rudnick Common Allotment.

n. The permittee's certified actual use report is due no later than 15 days after the end of authorized grazing but no later than March 15th and September 15th, each year.

o. The terms and conditions of this permit may be modified if additional information indicates that revision is necessary to conform with 43 CFR 4180.2.

p. The payment of grazing fees shall be received within 15 days of the due date or the permittee will be charged a late fee assessment of $25 or 10% of the grazing bill, whichever is greater, not to exceed $250. Failure to make payment within 30 days of the due date may result in adverse administrative action.

**7.** Regional Rangeland Health Standards and Guidelines for Livestock Management

The Regional Standards for Public Land Health and Guidelines for Livestock Management were approved under the West Mojave Plan in March 2006. Implementation of the standards and guidelines cannot occur until the Secretary of the Interior approves them. Until that time, the nationally developed fallback standards and guidelines (see No Action Alternative) would continue as the basis for public land health. These Regional Standards and Guidelines are listed in Appendix 6, Part I. Rangeland Health inventory studies will be conducted and a Determination made, prior to the renewal of the next grazing permit/lease. These regional Standards and Guidelines will be incorporated and made part of the terms and condition of the

permit (replacing the Fallback Standards and Guidelines) once approved by the secretary of the Interior, without further notice.

Experimental and research efforts will be encouraged to provide answers to grazing management and related resource concerns through cooperative and collaborative efforts with outside agencies, groups, and entities.

**8. Measures to Adhere to Livestock Grazing Amendment of Cultural Resources Protocol:**

To reduce or eliminate impacts to cultural resources within the allotment, terms and conditions of the Livestock Grazing Amendment will be followed. These terms will also be incorporated into the Terms and Conditions of the Permit. Actions under the Amendment will include planning and scheduling, inventory and other pertinent identification efforts, consultation with tribal and other interested parties, evaluation of resources as required under the Amendment, application of Standard Protective Measures from the Amendment, monitoring, and reporting of results to the BLM California State Office and the State Historic Preservation Officer. A schedule for carrying out these actions was established as part of the 2004 annual report on implementation of the Addendum. As identification efforts are carried out and Standard Protective Measures from the Addendum are applied, impacts to cultural resources will be eliminated or reduced to a level that is in compliance with the Addendum. If Standard Protective Measures cannot achieve compliance with the Addendum, consultation with the State Historic Preservation Officer will be initiated.

Standard Protective Measures can include but are not limited to:

A. Fencing or exclosure of livestock from the cultural resource sufficient to ensure long-term protection, according to the following specifications:

1. the area within the exclosure must be inventoried to locate and record all cultural resources; and
2. the exclosure (i.e.) fence must not divide a cultural resource so that a portion is outside of the fence; and
3. the cultural resource specialist will determine the appropriate buffer to be provided between the cultural resource and its enclosure fence.

B. Relocation of livestock management facilities/improvements at a distance from cultural resources sufficient to ensure their protection from concentrated grazing use.

C. Removal of natural attractants of livestock to a cultural resource when such removal, in the judgment of the cultural resource specialist, will create no disturbance to the cultural resource (e.g. removing vegetation that is providing shade).

D. Removal of the area(s) containing cultural resources from the allotment.

E. Livestock herding away from cultural resource sites.

F. Use of salting and/or dust bags or dippers placement as a tool to move concentrations of cattle away from cultural sites.

G. Other protective measures established in consultation with and accepted by SHPO.

H. Conduct follow-up monitoring to ensure that treatment measures are effective.

**B. NO ACTION ALTERNATIVE**

The No Action Alternative consists of authorizing cattle grazing on this allotment, under two grazing permits. Each permit would be for a term of 10 years. These grazing permits would include the terms and conditions stated in the 1992 Biological Evaluation of Cattle Grazing Along the Eastern Slope of the Sierra Nevada Mountains in the California Desert District (CA-063.50, 1-6-92-F-55) and extended in August 2000. Also, the terms and conditions of the Biological Opinion attached to the WEMO Plan Amendment of the CDCA Plan for cattle grazing have been incorporated. In addition, the current season of use and permitted use, including management actions and stipulations stated in an approved AMP, if applicable, or stipulations directed by existing decision or through an existing agreement would also be included in these grazing permits. Included in this alternative is the continuation of the seasonal closure of 31,000 acres of desert tortoise habitat from between March 1st through June 15th, and from September 7th through November 7th, annually. Table 1 outlines the numbers of cattle, season of use, and numbers of AUMs as they appear on the ranch operators' permits.

1. Livestock Numbers and Season of Use

Table 1.

| Allotment & (Permittee) | Number | Kind | Class | From | To | AUMs |
|---|---|---|---|---|---|---|
| Rudnick Common (Oynx Ranch) | 739 | Cattle | Cow/calf | 3/1 | 8/31 | 3398 |
| | 738 | Cattle | Cow/calf | 9/1 | 2/28 | 3338 |
| (Onyx Mtn. Cattle Co.) | 14 | Cattle | Cow/calf | 3/1 | 7/30 | 70 |
| (vice Kelso Cattle Co.) | 14 | Cattle | Cow/calf | 3/1 | 9/15 | 91 |

2. Livestock Management

The present grazing system for Onyx Ranch as spelled out in Allotment Management Plan (AMP) is based upon a two year cycle. There are seven pastures potentially available. The first year cycle starts in late spring and extends through January with rest mandated in February, March, April, and sometimes May. The second year cycle begins in the fall and extends through the spring with rest mandated in July, August, and September. No pasture may be grazed during the spring growing season for two years in a row. The length of time

spent in a pasture based upon the number of AUMs calculated as the carrying capacity for that pasture. Once the number of AUMs has been met for that pasture the cattle are removed. Sheep Troughs and Rocky Point pastures are 12 month pastures in this system and can be used up to their capacity at any time during the year. Sheep Troughs Pasture has been used continuously for many years by an outside operator under a Livestock Use Agreement and has not been included in the rotation.

Aqueduct pasture has an unreliable source of water and can only be used periodically. Rocky Point pasture is a small pasture and is used as an adjunct to the other pastures and the Jawbone/Dove Spring pasture has had limited seasons of use due to seasonal closures to protect desert tortoise habitat. This leaves essentially five pastures; (See Map, Appendix 1) Jawbone/Dove Spring, Bird Springs/Kelso Creek, Kelso Valley, Aqueduct, and Canyons, to fit into a rotational grazing system for the bulk of the cattle herd given the limitations mentioned above. Current management practice for Onyx Ranch is a rotational grazing system with all cattle being in one pasture at a time for two to four months. This means that three to four pastures are used yearly and that all five pastures are used before the rotation returns to the first pasture used in the cycle. The intention of this system is that: (1) each pasture gets more than one year's rest before it is used again, and (2) the cattle never return to the same pasture in the same season of the year for two years in a row. For the reasons mentioned above this rotation system has not always been strictly adhered too. The rotational system has not been strictly adhered to because some proposed range improvements prescribed in the Allotment Management Plan of 1985 have not been constructed as well as some existing range improvements have become non-functional due to of vandalism and/or lack of maintenance.

The BLM entered into a settlement agreement with The Center for Biological Diversity in December 2000. Within that settlement the BLM agreed to implement seasonal closures of cattle grazing in Jawbone and Dove Spring pastures. Although the completion of the WEMO Plan Amendment terminated this seasonal closure, under this No Action alternative, BLM would maintain this closure for the next ten years.

3. Range Improvements

Under current management, the range improvements listed in Appendix 3 would be maintained or upgraded, and additional new improvements are proposed, to facilitate the distribution and control of cattle.

4. Measures to Maintain or Achieve Standards (Terms and Conditions of Permit)

None.

5. Monitoring

It is the same as for the Proposed Action.

6. Fallback Standards and Guidelines

The existing Fallback Standards and Guidelines remain in effect and govern livestock grazing in relation to ecosystem parameters until such time as the Secretary of Interior approves and signs the new Regional Standards and Guidelines. (See Appendix 6, Part II)

7. Existing Terms and Conditions

a. Grazing use within the Rudnick Common Allotment must be in accordance with the Rudnick Common Allotment AMP which is incorporated and made a part of this permit. This permit is based on the final AUM allocation from the Desert Plan. All grazing will be consistent with the stipulations contained in the Section 7 consultation on Cattle Grazing along the Eastern Slope of the Sierra Nevada Range in the California Desert District and the WEMO plan amendment

b. The terms and conditions contained in this permit continue in effect until such time as the BLM completes the processing of this permit in compliance with all applicable laws and regulations, at which time this permit may be canceled, suspended, or modified in whole or in part to meet the requirements of such applicable laws and regulations.

c. Projects within the allotment will be maintained in accordance with the appropriate cooperative agreement or range improvement permit.

d. Turnout will be subject to range readiness.

e. Actual use reports will be returned to this office within 15 days after the livestock are removed from the allotment.

f. Until alternative standards and guidelines are developed through planning the fall-back standards and guidelines will be used.

7. Stipulations from "Cattle Grazing along the Eastern Slope of the Sierra Nevada Range in the California Desert District" (Ca-063.50, 1-6-92-F-55)

a. In category 3 desert tortoise habitat, ephemeral utilization would be authorized only when ephemeral production meets or exceeds 200 pounds per acre.

b. Authorized use of ephemeral forage would be limited to the replacement heifers associated with a particular operation. Any replacement heifers authorized to use ephemeral forage would be removed from such allotments whenever the thresholds for curtailing ephemeral grazing are reached.

c. The Rudnick Common allotment would be managed according to the allotment management plan (AMP) for this area.

d. The AMP provides flexibility in seasonal use of pastures and numbers of cattle as long as authorized AUMs are not exceeded. The AMP also provides for temporary or permanent AUM decreases or increases depending upon monitoring results.

e. Within key areas, utilization would be limited to between 30 and 50 percent of key species. When utilization approaches authorized limits in any key area, steps will be taken to redistribute or reduce cattle use of that key area. Prior to reaching maximum use level all cattle will be removed from an area.

f. Grazing may be curtailed to protect perennial plants during severe or prolonged drought.

g. New range improvement projects would be constructed following normal environmental guidelines.

h. Providing cattle with dietary supplements, including protein, mineral, and salt to improve cattle nutrition is allowed. Except for emergencies, and only with specific authorization, feeding of roughage, such as hay or hay cubes to supplement forage quantity, is not allowed.

i. In category 3 desert tortoise habitat, perennial forage authorization above the preference level would be made under temporary non-renewable basis for a period up to 3 months, depending on the number of cattle and forage available.

j. Proposed range improvement projects would be developed to enhance cattle distribution allotment –wide and reduce the potential for excessive grazing use.

k. In the Tunawee Common and Rudnick Common allotments, a system of pastures, with grazing rotated between pastures, would be established.

l. All proposed range improvement projects would be designed and flagged to minimize environmental impacts. Surface disturbance would be minimized, and after construction is complete, disturbed soil would be blended and contoured into the surrounding terrain. Use of existing roads and vehicle ways to projects sites would be encouraged, while construction of new roads would be minimized. Debris or trash created during construction and maintenance of range improvements would be removed immediately.

m. Layout of fences and corrals would be carefully positioned to avoid potential impacts to desert tortoises and their burrows. Construction of fences and corrals near burrows would be avoided.

n. Existing roads would be utilized when trenching for a section of new pipe or performing maintenance on existing pipe.

o. If off road use of any mechanical equipment is required to maintain or construct range improvement projects, the lessee must notify the Bureau 48 hours prior to initiating the work. During routine maintenance, vehicles would be restricted to existing roads and vehicle ways.

p. Except for shipping and animal husbandry practices, herding of cattle would be kept to a minimum. Cattle would be evenly dispersed throughout their area of use.

q. Monitoring of perennial plant utilization, and range condition and trend would be implemented according to the methods and scheduling detailed in table 3. Ephemeral production data would be collected when necessary if requests are made for ephemeral grazing. Guidelines for monitoring grazing utilization, ephemeral forage production, and trends are contained in the Bureau Manual and the California Desert Conservation Area Plan.

## C. NO GRAZING ALTERNATIVE

WEMO identifies seven allotments for voluntary relinquishment within the Ridgecrest Field Office Area. These seven allotments have been identified as having special status species that would benefit from voluntary relinquishment. The Rudnick Common is one of these seven allotments.

This alternative would not authorize grazing and would initiate a process in accordance with 43CFR 4100 regulations to eliminate grazing and make the allotment unavailable for grazing. If the permittee/lessee requests for voluntary relinquishment of the permit/lease for this allotment at any time during the life of this permit/lease, BLM will review the analysis contained in this EA for the purpose of determining whether to accept such request without preparing an additional NEPA document. If conditions and circumstances remain substantially the same, no further document should be needed.

## D. REDUCED GRAZING ALTERNATIVE

Under this alternative, various reduced levels of AUMs were considered as a method of meeting rangeland health standards. However, it is not the number of cattle grazing in the impacted areas that are causing the adverse changes; rather it is the length of time and frequency of grazing that are causing the damage. Whether 10 cows are grazing the small riparian areas or 20 cows graze, is not the issue. The important variable for maintaining the plant communities is rest from grazing. By allowing for sufficient rest in these critical areas between grazing treatments will maintain the different plant communities' health. The observed damage to the riparian areas is a result of small numbers of livestock that drift into these areas when they are scheduled for rest. Reducing the number of livestock on the allotment will not prevent this drift. Also, the length of time the animals are in the pasture affects whether the cattle come back into the riparian areas as they regrow after the initial grazing occurs. Cattle behavior dictates that the cattle will first graze around the watering areas, whether natural or man-made, before they move off to find forage elsewhere. This continued use of the riparian areas as the rest of the pasture receives its' grazing treatment is causing the downward trend in condition of the riparian vegetation. Reducing the number of cattle by any percentage would not cure the problem because this reduced livestock numbers would not ensure sufficient rest is received by the riparian plant communities. Therefore, this alternative will not be further analyzed.

# CHAPTER 3: ENVIRONMENTAL ANALYSIS

## A. LIVESTOCK GRAZING

**1. Affected Environment**

The Rudnick Common Allotment is floristically diverse because it is at the juncture of four floristic provinces. The floristic provinces are the Western Mojave Desert, the Northern Mojave Desert, the Southern Sierra, and the San Joaquin Valley. Both the ephemeral and perennial species provide significant amounts of forage and the allotment is classified as an ephemeral/perennial allotment that is available for both sheep and cattle grazing.

Topographically the Rudnick Common Allotment ranges in elevation from 3,200 feet on the eastern edge to 4,000 feet at the base of the Sierras, and reaches 6,500 and 7,000 feet in the Sierras and the Piute Mountains. The Kelso Valley on the western side of the allotment is at approximately 4,500 feet. Water for grazing is provided through natural springs with improvements, wells, and siphoning water from the L.A. Aqueduct.

The Rudnick Common allotment is divided into 12 pastures (see table A1). Two of the pastures (Cane Canyon and Pinyon Well) are designated for use by the Onyx Mountain Cattle Company. The other 10 pastures are designated for use by the Rudnick Estate Trust (Onyx Ranch). The Scodie Allotment is a small Forest Service allotment used as a pasture by the Rudnick Estate Trust. Sheep Troughs pasture is a year round pasture subleased by the Trust to an outside operator. The remaining eight pastures used by the Trust are used in a rotational grazing pattern. These pastures are Jawbone, Dove Spring (aka, San Antonio), Kelso Valley, Kelso Creek, Bird Springs (aka, Dove Spring), Canyons, Aqueduct, and Rocky Point (aka, Brown Flat). Jawbone/Dove Spring pastures and Bird Springs/Kelso Creek pastures are used as paired pastures because natural barriers are insufficient to contain cattle in one pasture and there are no fences.

Table A1

| Pastures | Perennial Carrying capacity | Acres | Desert Tortoise Habitat |
|---|---|---|---|
| 1 - Aqueduct | 1,000 | 17,000 | Yes |
| 2 - Bird Springs | 1,600 | 27,000 | Yes |
| 3 - Dove Springs | 1,800 | 31,000 | Yes |
| 4 - Jawbone Canyon | 2,000 | 33,000 | Yes |
| 5 - Sheep Troughs | 1,700 | 28,000 | No |
| 6 - Canyons | 1,700 | 27,000 | No |
| 7 - Scodie (Forest Service) | 280 | 14,260 | No |
| 8 - Kelso Valley | 2,000 | 32,000 | No |
| 9 - Kelso Creek | 1,200 | 20,000 | No |
| 10 - Pinyon Well | 280 | 5,600 | No |
| 11 - Rocky Point | 250 | 5,000 | No |
| 12 - Cane Canyon | 120 | 3,200 | No |

The Allotment Management Plan (AMP) signed in 1985 listed these twelve pastures as having a perennial carrying capacity of 13,630 AUMs which includes private and public lands (see table A1). The permit for the Rudnick Estate Trust (Onyx Ranch) calls for the allocation of 7,016 AUMs (Scodie Mtn. included) of perennial forage annually for all pastures. The

historical allocation of AUMs called for at the time FLPMA became law and reiterated in the CDCA Plan is 26,210 AUMs. While the Rudnick permit allows 7,016 AUMs use each year, 18,867 AUMs are held in suspension. Ephemeral grazing may be authorized up to the number of AUMs held in suspension. From the 1999/2000 grazing year through the 2003/2004 grazing year the Trust has used between 2,100 and 2,900 ephemeral AUMs annually. From 1992 through the 1998/1999 grazing year the perennial AUMs used by the Trust were below the total number allocated to them except for one year, 1995/1996, when 13,687 AUMs were allocated to it. Of these 13,687 AUMs, 4498 AUMs were allocated as ephemeral AUMs. Therefore, the Trust has used less than 2,900 AUMs in seven of the past 12 years, less than 6,700 AUMs in 11 of the past 12 years, and been allocated additional AUMs above its permitted use in one of the past 12 years.

Table A2.

| Allotment | No. of Years | Range of No. of Cattle on Allotment | Average No. of Cattle/Year | Range of No. of AUMs/Year | Average No. of AUMs/ Year |
|---|---|---|---|---|---|
| Onyx Ranch (Trustees) | 12 | 24-3883 | 353 | 844-11,233 | 4219 |
| Onyx Mtn. Cattle Co. | 4 | 1-69 | 57 | 132-185 | 152 |

The Onyx Mountain Cattle Company used 141 AUMs in 2001, in 2002 they used 132 AUMs, and in 2003, a wet year, they were allocated 24 extra AUMs for a total of 185 AUMs. These AUMs were used in Pinyon Well and Cane Canyon pastures.
Since 1992 use in terms of AUMs has ranged from 844 (12% of preference) to 9,178 active AUMs (131% of preference) with an average of 3415 active AUMs (49% of preference). In addition ephemeral AUMs have been authorized in four years out of the last fifteen years. The range of ephemeral AUMs authorized has been 2,201 in 1992 to 5,961 in 2005. Livestock distribution and pasture rest are the biggest challenges in managing the livestock on this allotment. Utilization studies have indicated that more use and cattle activity occurs fairly consistently in and around riparian corridors and high valleys while broader plains areas have seen more moderate usage because of the ability of the cattle to disperse. Thus, in Canyons Pasture, the canyon bottoms in Cow Heaven, Sage, and Horse Canyons have frequently sustained heavy grazing activity however, the heaviest used land in the bottoms of Sage and Horse Canyons is private. In Aqueduct Pasture, the western portion of the pasture where water is siphoned from the aqueduct and where Highway Well exist have received the most grazing pressure. In Bird Springs Pasture the gulch where BLM designated route SC120 leads up to Bird Springs and then broadens as it goes up to Bird Springs Pass receives consistently heavy cattle activity. Bird Springs Pasture also sustains heavy cattle use around Dove Spring and Virginia Tank. Dove Spring Pasture receives heavy cattle activity on the west side of Dove Spring and historically up to Dove Spring Well; however, the present inactivity of the well has diminished recent cattle activity there. San Antonio Tank also receives heavy cattle use, but is located on private property and Bishop's Claim Well historically received heavy cattle activity. In Kelso Valley the areas around Whitney Well and Road Well receive heavy activity as does the private property. Butterbredt Valley is an area of moderate cattle activity. Kelso Creek

receives heavy use at Frog Spring (private), Shoemaker Spring Trough, Williams Spring, and Willow Spring, and moderate use along Frog Creek. Tunnel Spring is on private property but receives heavy activity. Jawbone Pasture sustains heavy activity from in the canyons leading off from Jawbone Canyon Road due to OHV use. Sheep Troughs Pasture sustains moderate to heavy cattle activity year around at the springs along the course of Cottonwood Creek and along tributaries to the southwest. However, the vast majority of this pasture is on private land. (See Map, Appendix 1)

**2. Environmental Consequences**

a. Impacts of Proposed Action

The implementation of six measures enumerated in the Proposed Action alternative will help improve the overall condition of the range on the allotment. The six measures are:

- The lifting of the seasonal tortoise closure in Dove Spring pasture allows for more flexibility in using the pasture in the pasture rotation system because the pasture can now be used in the spring or fall seasons as well as in the summer and winter;
- Including Sheep Troughs pasture in the pasture rotation system brings the number of pastures in the rotation to six instead of five which gives the vegetation in any one pasture a greater time frame in which to recover before its next use;
- Adding drift fences on Frog, Bird Spring, Gold Peak and Willow Spring passes to control incidental out-of-rotation use of vegetation. This also helps to make Kelso Creek pasture more of a stand alone pasture that can be added to the pasture rotation system as a separate entity;
- Protecting the riparian areas on Cottonwood Creek in Sheep Troughs pasture, along Kelso Creek, and at Williams and Willow Springs allows for the recovery of the stream habitat;
- Exclosure fences in Butterbredt Canyon and Hoffman Canyon will also protect riparian habitat;
- Including riparian monitoring allows for a more detailed picture of utilization in a pasture.

Changing the season of use to “year long” on the permit of the Onyx Mountain Cattle Co. and for the AUMs formerly used by the Kelso Cattle Company allows more flexibility in grazing rather placing so much emphasis on using AUMs during the spring and summer which places increased stress on the vegetation.

b. Impacts of No Action

Unfortunately the two year cycle rotation prescribed in the Allotment Management Plan has not worked for three reasons:

- The cattle drift because natural boundaries between some of the pastures are not sufficient to hold them.
- The seasonal tortoise closure of Jawbone and Dove Spring pastures (in effect from 2001 until March of 2006) has not allowed these pastures to be used in the spring and fall. This has limited these pastures availability for use in any system that might be devised because it decreased the flexibility of the system.

- Water availability has been irregular in Aqueduct and Canyons pastures because it is siphoned off the Los Angeles Aqueducts. When the aqueducts are being maintained or water flows are low water cannot be siphoned off. Furthermore, a well which helped distribute the cattle in the pasture was vandalized and is now in disrepair.

In practice Kelso Creek Pasture is linked to Bird Spring Pasture because the natural barrier between them is not great enough to prevent the drift of cattle. Therefore, the two pastures must be treated as one. The same situation occurs between Jawbone and Dove Spring pastures. In effect, this leaves five pastures in the rotation system; Kelso Valley, Dove Spring/Jawbone, Bird Spring/Kelso Creek, Canyons, and Aqueduct. What has evolved is a best pasture system where no pasture may be used for two years in a row during the spring growing season. This system also has been awkward during recent years because of the seasonal tortoise closure in Dove Spring/Jawbone, and the irregular supply of water in Aqueduct Pasture. Rocky Point pasture is a small pasture that can only accommodate a small herd for a relatively short period of time.

Furthermore, new range improvements are needed to assure better distribution of cattle within pastures (See Appendix 2).

c. Impacts of No Grazing

There are approximately 118 range improvements constructed to manage livestock grazing. The vast majority of these structures would need to be dismantled and removed.

## B. AIR QUALITY

### 1. Affected Environment

Air pollutants occur as gaseous and particulate mater that is emitted into the air. Air pollutants are very fleeting in the desert due to the constant air movement. Moving air constantly disperses air pollutants from their source and dilutes them. In addition, the interaction between pollutants, affects of moisture and sunshine generally modify most pollutants over time. Some form particulates and fall as dry deposition others fall with the rain. The air pollutants don't remain in the area of the source and accumulate over time (ARB 2001a and 2003c, Calkins 1994, DeSalveo 2003, KCAPCD 1994-2004, Ono 2000, Paxton 1993, SCAQMD 1993b and USDI BLM 1999, 2001a and 2006c). All of the allotment falls within the Mojave Desert Air Basin. Air quality throughout the allotment area is generally good. There are, however, times that portions of the area have not meet air quality standards due to locally generated and/or transported in pollutants. Until recently portions of the allotment were classified as nonattainment areas for ozone and $PM_{10}$ under state standards and attainment for the one hour ozone standard and maintenance for $PM_{10}$ under National Ambient Air Quality Standards (NAAQS). The USEPA recently classified the southern portion of eastern Kern County as a federal nonattainment area for the new eight-hour ozone standard. This ozone nonattainment area includes all of the Rudnick Common Allotment outside of the Indian Wells Valley. The area is unclassified for the new $PM_{2.5}$ standard. The portions of the allotment from Dove Springs south and the Kelso Valley and Kelso Creek areas are unclassified for $PM_{10}$ (ARB 1991, 1992, 1993a, 1993b, 1996, 2000, 2001a, 2001b, 2003a, 2003b, 2006a, GBUAPCD

KCAPCD and MDAQMD 1991, KCAPCD 1994-2004, SCAQMD 1993b, USDI BLM 2005b and 2006c, USEPA 2003b, 2003c, 2003d and 2003e).

Ozone pollutants occur in the area primarily from transport in from the South Coast Air Basin and the San Joaquin Valley Air Basin. Livestock grazing is not identified as an emission source for the ozone nonattainment areas (KCAPCD 1994-2004 USDI BLM 2005b and 2006c and USEPA 2003c).

A maintenance/attainment plan has been prepared for the Indian Wells Valley $PM_{10}$ planning area which identifies sources of $PM_{10}$ emissions and control measures to reduce emissions. Livestock grazing is not listed as a source in the $PM_{10}$ plan. The KCAPCD fugitive dust control plan applies to the entire eastern Kern County area, including the Rudnick Common Allotment.

**2. Environmental Consequences**

a. Impacts of Proposed Action

Fugitive dust could occur due to the soil disturbance as a result of the trampling action of the cattle when soil moisture levels are low. $PM_{10}$ emissions as a result of the existing grazing activities are likely nondetectable and are estimated to be well below the 100 ton significant level in the allotment. Support vehicle use on the access roads will generate small amounts of $PM_{10}$ emissions throughout the grazing area and could carry soils onto the paved roads which would increase entrainment emissions. Grazing related $PM_{10}$ emission levels are not considered significant in the $PM_{10}$ SIP. Ruminant animals emit methane gas which is a precursor emission for ozone. The ozone attainment plan did not identify this source as significant. Ozone precursor emissions are expected to be minimal. No significant offsite impacts are anticipated. The proposed grazing use would not exceed the deminimus emission levels, complies with the SIP and is exempt from conformity determination (40 CFR Part 93.153 ( iii ))(USEPA 1993) which exempts continuing and recurring activities such as permit renewals where activities will be similar in scope and operation to activities currently being conducted. As a result no further conformity analysis or determination is necessary.

Air is a renewable resource because movement constantly brings in new air and atmospheric processes cleanse pollutants out of the air. Large particulates that characterize fugitive sources such as cattle grazing typically fall out quickly. As a result, no irreversible or irretrievable commitment of air resources would result.

b. Impacts of No Action

Impacts to air quality as a result of the proposed action would be similar to the existing situation.

c. Impacts of No Grazing

No impacts to air would occur as a result of grazing activities.

d. Consultation

The BLM worked closely with the air districts in developing inventories and emission estimates for inclusion in the SIPs. The information developed has had review at the air district, ARB and EPA levels. There is no required consultation unless emissions exceed deminimus levels in federal nonattainment areas. In that case a formal conformity determination would have to be prepared which has a required consultation process. In this case emission levels are considerably below deminimus levels and categorically exempt from conformity determinations.

## C. AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

### 1. Affected Environment

The Rudnick grazing allotment overlaps the Jawbone/Butterbredt Area of Environmental Concern (ACEC). The Management Plan was written in 1982 as an ACEC Plan and a Habitat Management Plan, signed by both BLM and the California Department of Fish and Game. The Objectives are: "…to protect and improve wildlife species and habitats, Native American, and other natural and cultural resources, while allowing appropriate land uses." The ACEC is made up of 153,000 acres of public land, 48,000 acres of Rudnick estate trust land and 10,000 acres of other ownership, making a total of 211,000 acres.

"Sensitive and significant Native American heritage and religious sites were identified in portions of the ACEC during preparation of the CDCA Plan. These sites were historically used by the Kawaiisu for traditional religious purposes. Kawaiisu people in Bakersfield, Kernville, and Tehachapi have expressed concern and interest in preserving and protecting these traditional religious sites" (USDI, BLM 1982:9). In regards to other cultural resource values, "…the management area contains several identified areas of very high archaeological and historical values. These archaeological resources have high potential scientific interest, aesthetic and interpretive value, and many have Native American traditional concerns. Many of these sites may be eligible for placement on the National Register of Historic Places" (Ibid.:9).

The ACEC management plan also stated that, "the existing uses (by Livestock) are compatible but must be limited or reduced in portions of the area to reverse degradation of cultural resource values…especially near water sources, riparian zones…" (Ibid:9) The detrimental effects discussed included the removal of cover also important to wildlife and increased soil erosion, with subsequent loss of vegetation resulting in further reductions in surface water quantity and quality.

The ACEC is heavily used by motor vehicles, especially OHVs for recreation. Two OHV Open Areas, Jawbone and Dove Spring, occur within the ACEC. OHV use occurs in the surrounding areas as well. Outside these Open Areas, vehicle use is restricted to designated routes. Although there is a level of noncompliance with this restriction, BLM has ongoing restoration activities to reduce the problem.

## 2. Environmental Consequences

Impacts of the Proposed Action, No Action, and the No Grazing alternatives are presented under Section E: Cultural Resources.

## D. BIOLOGICAL SOIL CRUSTS

## 1. Affected Environment

The open space between higher plants is not always bare of all life. At some sites highly specialized organisms can make up a surface community that may include cyanobacteria, green algae, lichens, mosses, microfungi and other bacteria. Soils with these organisms are often referred to as cryptogamic soils and form what is referred to as biological crusts. The cyanobacteria and microfungal filaments weave through the top few millimeters of soil and aid in holding loose soil particles together forming a biological crust which stabilizes and protects soil surfaces. The biological crusts aid moisture retention, fix nitrogen, and may discourage the growth of annual weeds. Below the surface, the soil flora grows various rhizimes, hyphae and filaments that further bind the soil together. Most of the biological crust organisms make their growth during cool moist conditions. The intermountain region had many-extensive complex crusts. Many of those areas are so fragile that even casual foot traffic can cause extensive damage. Many of the intermountain areas have fine textures soils, cooler climates and summer rains which are conducive to crust development.

As a contrast, the western Mojave desert has coarse-textures soils, high temperatures, little summer rain and very high potential evapotransporation (PET). According to Jane Belnap (2003, 2005) " less stable , coarse-textured soils often support only highly mobile, large filamentous cyanobacteria (such as Microcoleus) spp.)." She also says (2003 and 2005), "Cyanobacteria heavily dominate crusts of hot desert sites (Sonoran, Mojave and Chihuahuan) where PET is high." She also indicated that some hot desert sites may not support biological crusts (Belnap 2005). The latest data, Belnap (2003 and 2005) and USDI BLM 2001, indicates that the likelihood is that they would be simple crusts that are highly mobile and quick to recover from disturbance. This is consistent with the health assessments and field observations in the Rudnick Allotment (USDI BLM 2005a, Harris 1974-2006). Soil crusts were found at 26 of the 44 upland sites sampled during the rangeland health assessments. Most of the crusts observed were simple cyanobacteria. One high elevation moist site had a complex crust community with multiple species.

## 2. Environmental Consequences

a. <u>Impacts of Proposed Action:</u>

Grazing animals can apply compressional and shear forces to the soil. The crust response to these disturbances is highly variable. Moisture and burial are two important factors relating to the degree of impact. With coarse textured sandy soils, moist crusts are better able to withstand disturbances than dry soils (Belnap 2003 and USDI BLM 2001). Many of the biological crust species are not mobile and cannot survive burial. However, as Belnap (2002

and 2005 and USDI BLM 2001) noted, the hot desert crusts are simple crusts that are highly mobile and quick to recover from disturbance. The large, filamentous cyanobacteria can move 5mm per day if it is wet (Belnap 2003 and USDI BLM 2001b). Rain and moist soils occur through part of the winter grazing season. Grazing in the later part of the spring and summer can reduce the cover of biological crusts because the soils are dry. These simple crusts would likely recover within days once the rain returns. Because the crusts are simple to nonexistent, site recovery should be such that the impact would be nonsignificiant.

b. Impacts of No Action:

Similar to Proposed Action

c. Impacts of No Grazing

Grazing would no longer disturb soil crusts.

## E. CULTURAL RESOURCES

### 1. Affected Environment

There are 241,800 acres within this allotment. It is bounded by State Highway 14 on the east, State Highway 178 and the Sequoia National Forest-BLM Kiavah Wilderness Area on the north, the Hansen Range Allotment south of Jawbone Canyon, and the Piute Mountain sector of the Sequoia NF on the west. The allotment encompasses a variety of environmental zones along with a series of riparian canyons. These canyons were used by prehistoric peoples as they moved about making use of seasonally available plant and animal food resources. Historic archaeological remains represent attempts at ranching, transportation, and water resource development.

Approximately 220 prehistoric and historic archaeological sites have been recorded within the allotment. Prehistoric site types that have been recorded include permanent and seasonal habitation sites (Midden), bedrock milling areas (BRM), lithic scatters (LS) , and rock art features such as petroglyphs and pictographs. Historic period sites that have been recorded include rock walls, foundations, collapsed wood frame structures, abandoned mine shafts and adits, isolated rock cairns, historic trails and roads.

Archaeological sites have been recorded sporadically within the allotment since the early 1950s, but between 2002 and 2004 several extensive cultural resource surveys took place. URS Corporation, under contract to BLM, conducted a Class III (100%) inventory of the Jawbone and Dove Spring Open Areas, and then a Class II (sample) inventory of the surrounding Jawbone-Butterbredt ACEC (Bevill and Nilsson 2004). They covered 2,000 acres within the Jawbone, 3,300 acres within the Dove Spring, and an additional 5,185 acres of the Jawbone-Butterbredt ACEC, and recorded about 140 new sites.

URS also conduced a linear site survey of the Los Angles Aqueduct corridor, under contract to Los Angeles Department of Water and Power (LADWP), and recorded another 25 sites within approximately 1,500 acres, and Ancient Enterprises Inc. (AE) conducted a 2,000 acre survey in areas surrounding the Jawbone and Dove Springs Open Areas, and recorded an additional 12 sites. Approximately 14,500 acres of the allotment's acreage (6%) has been subjected to cultural resources investigations. National Register of Historic Places (NRHP) eligibility for the sites recorded by the URS and AE surveys has not yet been concluded.

The historic site, Bandit Rock (also known as Robber's Roost), a prominent rocky uplift in the northeast sector of the allotment, was listed on the NRHP in 1976. The Los Angeles Aqueduct itself is presently under review for its eligibility for listing on the NRHP, and appears to be an eligible property. Based upon the findings of the URS and AE studies, none of the features that comprise these two historic property have been effected by grazing activities.

The 155,435 acre Jawbone-Butterbredt Area of Critical Environmental Concern (ACEC) is located within the Rudnick Allotment. It was established by the California Desert Plan of 1980 to allow management directions specific to the protection of heritage resources. There are geographical locations within the ACEC that are important to the local Kawaiisu Indian peoples for spiritual and religious reasons. The management plan for the ACEC evaluated these concerns in 1982 and determined that the existing uses of the Native communities and livestock grazing are compatible, but the grazing must be limited, or even reduced, in those areas that contain water and riparian vegetation.

A systematic review of the site record forms for the 220 archaeological sites recorded within the allotment determined that 26 (12%) contain documentation of impacts apparently caused by livestock grazing. This group contains 22 prehistoric, 2 historic, and 2 multi-component sites. The type of effects to these sites was caused by either transitory grazing by cattle, or the construction of water impoundment facilities. The level of effects ranged from High (significant surface disturbance noted), to Medium (some disturbance), to Low (infrequent disturbances) Table E1 lists these sites by their trinomial designation, type of site, type of effect, and level of effect.

An analysis of the level of effects is also displayed by Table One. Three sites appear to have a High degree of surface disturbances caused by livestock with another four having Medium levels of disturbances. The remaining 19 sites appear to be effected at a Low level. One of the High Level sites, CA-KER-212, while within the boundary of the Rudnick Allotment, actually occurs on private land and can not be considered. The remaining two sites within this group both occur within the Kelso Creek subarea. Site CA-KER-6375 is adjacent to Kelso Creek and site CA-KER-6380/H is near Willow Springs. One of the sites that experienced medium levels of impacts from grazing, CA-KER-6377, also occurs near these two sites.

The remainder of the sites that appear to have medium levels of disturbances caused by grazing occur in isolated contexts. Site CA-KER-6414 occurs in Cow Heaven Canyon, site CA-KER-6437 is north west of Bird Springs, and site CA-KER-6454 is located south of

the Dove Springs Open Area. The severity and frequency of the low levels of disturbances noted at the other 22 sites have not exceeded the adverse effect threshold.

Table E1:

| Site Number | Type of Site | Type of Effect | Level of Effect |
|---|---|---|---|
| KER-0212 | Lithics w/BRM | Grazing | High |
| KER-6375 | Midden-BRM | Grazing | High |
| KER-6380/H | Multi-component | Water Pond | High |
| KER-6377 | Lithics w/BRM | Grazing | Medium |
| KER-6414 | Lithic Scatter | Grazing | Medium |
| KER-6437 | Lithics w/BRM | Grazing | Medium |
| KER-6454 | Lithic Scatter | Grazing | Medium |
| KER-0204 | Lithics w/BRM | Grazing | Low |
| KER-0205 | Pictographs | Grazing | Low |
| KER-6349/H | Multi-component | Grazing | Low |
| KER-6350 | Lithic Scatter | Grazing | Low |
| KER-6354 | BRM | Grazing | Low |
| KER-6363 | Lithics w/BRM | Grazing | Low |
| KER-6376 | BRM | Grazing | Low |
| KER-6382H | Mining | Grazing | Low |
| KER-6428 | Lithics w/BRM | Grazing | Low |
| KER-6431 | Lithics w/BRM | Grazing | Low |
| KER-6433 | Lithic Scatter | Grazing | Low |
| KER-6434 | Lithic Scatter | Grazing | Low |
| KER-6435 | Lithic Scatter | Grazing | Low |
| KER-6436 | Lithics w/BRM | Grazing | Low |
| KER-6438 | Lithic Scatter | Grazing | Low |
| KER-6445 | Lithic Scatter | Grazing | Low |
| KER-6453 | Lithic Scatter | Grazing | Low |
| KER- | Lithic Scatter | Grazing | Low |

| | | | |
|---|---|---|---|
| 6457 KER-6458H | Mining | Grazing | Low |

**2. Environmental Consequences**

*a*. Impacts of Proposed Action :

Under the proposed action, there would be no change to cultural resources management components of the California Desert Conservation Area Plan as amended. Cattle grazing would continue at current levels pursuant to planning and management prescriptions. Proposed range improvements and changes in approved management plans would be reviewed pursuant to Section 106 of the National Historic Preservation Act as implemented in the *State Protocol Agreement between the California State Director of the Bureau of Land Management and the California State Historic Preservation Officer Regarding the Manner in which the Bureau of Land Management will meet Its Responsibilities under the National Historic Preservation Act (*2004)(hereinafter referred to as the *Protocol*) and the Supplemental Procedures for Livestock Grazing Permit/Lease Renewals (2004) (hereinafter referred to as the *Supplement*).

Grazing has occurred in the California Desert since the 19th Century. Our knowledge and understanding about the effects of livestock grazing on cultural properties is limited for the California Desert, but studies of grazing impacts have been reported for other areas in California and the Great Basin region. The primary threats from grazing behavior would be damage to artifacts and site integrity resulting from the breakage, chipping, and displacement of artifacts, which might compromise the context and information potential of a historic property. Grazing threats to cultural properties would be greatest in areas where cattle congregate around springs, watercourses, shade and salt licks.

The proposed alternative would continue livestock grazing in accordance with current management plans. The threats to cultural properties would continue but would not change significantly from current levels. Presently, records for 26 of the 220 recorded archaeological sites within the allotment's boundary contain observations about effects, of varying intensities, to cultural properties that appear to be the result of livestock grazing. Under the proposed action, livestock grazing would be limited in the vicinity of these properties until an assessment of effects can be completed in accordance with procedures outlined in the *Supplement*. Under the proposed alternative, BLM would continue to implement the procedures outlined in the *Supplement* to identify historic properties that may be affected by livestock grazing. Where conflicts between livestock grazing and significant cultural properties are identified, BLM would implement the appropriate Standard Protective Measures specified in the *Supplement*, or in cases where conflicts cannot be resolved, the BLM would consult with the California State Historic Preservation Officer pursuant to Section 106 of the National Historic Preservation Act and the *Protocol*.

The high and medium levels of effects to the six sites mentioned above (excluding CA-KER-212 which is on private property) will be addressed by specific proposals. A range fence will be constructed around the perimeter of CA-KER-6380/H near Willow Springs.

A fence already exists on the west side of Kelso Valley Road, which divides site CA-KER-6375, thus providing protection for half of the site. The other portion of the site consists primarily of bedrock outcrops that contain metate slicks which have not been impacted by livestock. This site will be re-evaluated prior to its use by livestock for grazing purposes to determine if it needs protective fencing. If so, then the fence will be installed prior to the use of the location by livestock.

The need for fencing will be assessed for the four sites which exhibit medium levels of effects. These are CA-KER-6377, CA-KER-6414, CA-KER-6437, and CA-KER-6454. This group of sites will be re-investigated prior to the use of their locations by livestock for their eligibility for the National Register of Historic Places. Those sites which are determined eligible will then be studied to determine which standard protective measures would be implemented.

b. Impacts of the No Action:

The analysis and threats to cultural properties would be the same as the Proposed Action alternative. Under the No Action alternative, there would be no change to cultural resources management components of the California Desert Conservation Area Plan as amended. Cattle grazing would continue at current levels pursuant to planning and management prescriptions. Proposed range improvements and changes in approved management plans would be reviewed pursuant to Section 106 of the National Historic Preservation Act as implemented in the *Protocol* and the *Supplement*. The threats to the 26 cultural properties located within the allotment boundaries would continue but would not change significantly from current levels. As with the Proposed Action Alternative, livestock grazing would be limited in the vicinity of these properties until an assessment of effects can be completed in accordance with procedures outlined in the *Supplement*. Under the proposed alternative, BLM would continue to implement the procedures outlined in the *Supplement* to identify historic properties that may be affected by livestock grazing. Where conflicts between livestock grazing and significant cultural properties are identified, BLM would implement the appropriate Standard Protective Measures specified in the *Supplement*, or in cases where conflicts cannot be resolved, the BLM would consult with the California State Historic Preservation Officer pursuant to Section 106 of the National Historic Preservation Act and the *Protocol*.

c. Impacts of the No Grazing:

Implementation of this alternative would eliminate the threats from grazing to the 220 known and recorded sites located within the boundaries of the Rudnick allotment and the historic properties associated with the Jawbone Area of Critical Environmental Concerns (ACEC).

**3. Consultation**

Consultation with the State Historic Preservation Officer regarding the range permit renewal process is accomplished pursuant to the procedures outlined in the *Supplement* to the *Protocol*. Grazing permit renewals have been scheduled for review in accordance with

the *Supplement*. BLM Ridgecrest has submitted a schedule for the phased identification and evaluation of historic properties that might be threatened by continued grazing within the allotment. The Supplement provides a systematic long term management strategy to accomplish the identification and evaluation of cultural properties, as well as Standard Treatment Measures that may be utilized when BLM determines that significant historic properties would be affected by livestock grazing. In cases where BLM identifies that conflicts cannot be resolved, the BLM would consult with the California State Historic Preservation Officer pursuant to Section 106 of the National Historic Preservation Act and the *Protocol*.

The *Supplement* applies to the renewal of grazing permit authorizations and existing range improvements. All proposed undertakings for range improvements or changes in management prescription would be reviewed for effects to cultural properties pursuant to procedures set forth in the in the *Protocol* and in accordance with Section 106 of the National Historic Preservation Act (NHPA).

BLM has consulted with five Native American Tribes regarding the proposed action. The Tribes include the Bishop Paiute Tribe, the Big Pine Paiute Tribe, the Fort Independence Paiute Tribe, the Lone Pine Paiute-Shoshone Tribe and Timbisha Shoshone Tribe. BLM requested comment on the proposed undertaking, and in May, 2006 invited the tribes to consult under the *Executive Memorandum of April 29, 1994* (Government-to-Government Consultation) and other applicable laws and regulations. No tribes have requested to initiate consultation or have commented on this proposed action.

## F. ENVIRONMENTAL JUSTICE

### 1. Affected Environment

The grazing allotment being analyzed is located in rural Kern county. The rural areas of this county are typically occupied by moderate to low-income households. The lessees that hold the grazing leases for the allotment being analyzed typically have moderate incomes. Seasonal laborers that may be hired by the lessees generally come from low-income households

### 2. Environmental Consequences

a. Impacts of Proposed Action

The implementation of the proposed action would have an affect but not a disproportionate affect on low-income or minority populations living on or near the allotments being analyzed.

The grazing of livestock in rural Kern County has been a common practice for over 100 years. Typically, ranching has been performed by persons of low to moderate income, and may or may not be considered a minority. There are no Native American communities on or near any of the allotments being analyzed.

b. Impacts of No Action

The impacts of the no action alternative on environmental justice would be the same as for proposed action.

c. Impacts of No Grazing

Under the no grazing alternative there would be an affect but not a disproportionate affect with respect to low-income or minority populations. The loss of livestock grazing in rural Kern county could result in the loss of seasonal employment to a very small component of low-income or minority populations.

**3. Consultation**

All affect Native American tribes with traditional ties to the lands within the allotments being analyzed have been consulted.

**4. References**

Listed at the end of the document

## G. FARMLANDS, PRIME OR UNIQUE

**1. Affected Environment**

The proposed action and the alternatives would have no affect on prime or unique farmlands because there no lands so designated in the allotment.

## H. FLOOD PLAINS

**1. Affected Environment**

Flood plains are associated with all of the main drainages in the allotment. Alluvial fans occur at the mouth of nearly all drainages. Floods closed Highway 14 in 1997 and damaged many homes along Kelso Creek in 1984. Most of the flood events are associated with summer thunderstorm events. These large events tend to be localized events which may drop over 4 inches of rain in a short time. The very large events may have a return interval of 25-50 years. Flows of 28,000 to 50,000 cfs (cubic feet per second) have occurred in drainages within the allotment. These large events are a result of high intensity storms and are little effected by cultural practices in the watershed.

**2. Environmental Consequences**

a. Impacts of Proposed Action:

The proposed action could result in some impacts in flood plains. The construction of fences likely would cross flood plains and they would be susceptible to damages from floods, but would not likely to influence future flood events. The loss of existing and future structural range improvements in flood plains would continue at irregular intervals in the future. Such

damage would be limited and could be repaired by normal maintenance activities. Flood events where the flows exceed bank full flows and move onto the floodplain generally occur as a result of large summer thunderstorms where the cultural practices such as grazing have little influence on flood size.

b. Impacts of No Action:

Impacts are similar to what is expected from the proposed action.

c. Impacts of No Grazing

Cattle would not have an affect on flood plains located within the allotment since grazing would be eliminated under this alternative.

## I. INVASIVE, NON-NATIVE SPECIES

### 1. Affected Environment

Peter Rowlands et al. (1982) in Brooks (1998) notes that alien species comprise a relatively small portion of the flora in the deserts. They indicate that there approximately 1836 species of vascular plants in the California portion of the Mojave Desert of which 156 (9%) are alien to the region. This compares to the global average of 16% alien plants (Rowlands et al. 1982). Fraga (2005) studied the area immediately north of the Rudnick Common allotment and found that non-native species comprised 4% of the flora in that area. The non-native species can be classified into three general groups.

The first group is invasive, non-native plants which are common across the landscape. Species in this group are common across the Mojave Desert and many are common in surrounding bioregions as well. These species occur in most portions of allotment and combined, they generally constitute less than 20 % of the total cover. Species in this group include downy brome or cheat grass (*Bromus tectorum*), red bromegrass (*Bromus (rubens) madritensis Ssp. rubens*), Mediterranean grass (*Schismus arabicus and barbatus*), filaree (*Erodium cicutarium*) and tansy mustard (*Descurania sophia*). None of the species in this group are classified as noxious weeds.

The second group of invasive, non-native species is also common in the desert, but is more restricted in the habitats they occupy. For the most part this group is limited to road sides, some washes and other highly modified sites where there is little competition from other plants and water concentrates to provide late season soil moisture. Adequate soil moisture in the late spring and early summer is important for these species. Most of these species are warm season plants. These species occur along paved road corridors through and adjacent to the allotment. Road maintenance practices and equipment play a strong role in maintaining the site disturbance and in spreading seeds of these species. Major species in this group include Moroccan mustard (*Brassica tourenefortii*), Mediterranean mustard (*Hirschfedia incana*),

black mustard (*Brassica nigra*). None of these species are listed noxious weeds. Russian Thistle (*Salsola atragus*) is also found in this group and is a "C" rated noxious weed.

The third group of invasive non-native species is species which occur as a series of specific infestations at specific sites. All of these species are listed noxious weeds and have active control efforts in place. A number of these species occur in the region, but only salt cedar (*Tamarix spp*.) and tree of heaven (*Ailanthus altissima*) occurs within the grazing areas. Salt Cedar is a "B" rated noxious weed. The Rudnick Common Allotment has eleven sites identified with populations of salt cedar and two with tree of heaven. The sites range in size from 1 to 40 acres with a mean of 7.5 acres. One 20 acre site in Butterbredt canyon had been controlled and work has started at other sites. None of these infestations are the result of or affected by livestock grazing. The Onyx Ranch has signed a cooperative agreement with BLM to manage noxious weeds. OHV groups and conservation croups have assisted in control work. The introduction of invasive, non-native species, especially noxious weeds is very difficult if not impossible to reverse if not detected early. For that reason, the integrated weed management plan includes detection and prevention plans (USDI BLM 2006b).

**b. Environmental Consequences**

1. Impacts of Proposed Action

*Direct and Indirect Impacts:*

Livestock grazing have the potential to influence invasive, non-native species several ways. These possible influences could include transporting new species in from other regions, moving seeds from infested sites within the allotment to non infested sites and by modifying sites to be more favorable to invasive, non-native species. The movement and introduction of new species as a result of livestock grazing has a low probability in the Rudnick Common Allotment. The cattle using the allotment spend their lives on the allotment or adjacent private lands. Most existing invasive, non-native species are widespread and have been for a long time. Species such as filaree were noted as widespread in 1844 (Fremont,1957), prior to livestock grazing. Salt cedar is of limited range, but it is not spread by livestock grazing. Current livestock management is unlikely to cause any additional spread as most of these species occur over most of the region already. Livestock has modified high intensity use sites to provide a more favorable environment for the invasive, non-native species. Observations at watering and corral sites where animals concentrate have noted a dominance of bare ground or the more weedy species from the surrounding area. In the Rudnick Common Allotment, non-native species such as Red brome, cheat grass, Mediterranean grass and filaree and natives such as rabbit brush and cheese bush dominate around developed watering sites. All of these species are wide spread in the allotment.

2. Impacts of No Action Alternative

Same as Proposed Action

3. Impacts of No Grazing Alternative

*Direct and Indirect Impacts:*

There would not be any expected changes in vegetation composition on an overall basis (Sanders (1992) and Johnson and Meyeux (1992)). Some high impact type sites may increase their perennial cover. Standing Biomass levels could increase. Based on current literature and observations of areas which are not grazed, selecting the no grazing alternative would not be expected to result in any appreciable changes in the occurrence of current invasive, non-native species. Grazing would cease to be a factor in non-native, invasive species management, but the non-native, invasive species would continue to be a problem in the area.

## J. NATIVE AMERICAN CONCERNS

### 1. Affected Environment

The majority of the area encompassed by the Rudnick Common allotment was inhabited at historic contact by the Kawaiisu Indians. The Kawaiisu, who have cultural affinities with both the California and Great Basin regions, occupied an area that included the Tehachapi Mountains, portions of the Kern River Valley, and the Walker Pass area. Other areas frequented by them, included the Antelope Valley and eastern Sierra Nevada canyons, such as Jawbone, Grapevine, Sand, Indian Wells. While not a federally recognized tribe, the Kawaiisu are recognized by the State of California, and a number of people of Kawaiisu descent still live in the Tehachpi and Kern River Valley area.

### 2. Environmental Consequences

a. Impacts of Proposed Action

Consultation with Native Americans has been completed to determine whether there could be significant effects to tribally important locations and resources by the proposed action. No effects have been identified.

b. Impacts of No Action

Consultation with Native Americans has been completed to determine whether there could be significant effects to tribally important locations and resources by the proposed action. No effects have been identified.

c. Impacts of no Grazing

Implementation of this alternative would eliminate the threats from grazing to known tribally important locations and resources located within the boundaries of the Rudnick Common allotment, and the historic properties associated with the Jawbone/Butterbredt ACEC.

### 3. Consultation

BLM has consulted with five Native American Tribes of the region regarding the Proposed Action. The Tribes included: Bishop Paiute, Big Pine Paiute, Ft Independence Paiute, Lone

Pine Paiute-Shoshone, all in the Owens Valley, and Timbisha Shoshone of Death Valley. BLM requested comments on the proposed undertaking, and in May, 2006, invited the tribes to consult under the Executive Memorandum of April 29, 1994 (Government-to-Government Consultation) and other applicable laws and regulations. No tribes have requested to initiate consultation or have commented on this proposed action

**4. References**

Listed at the end of the document

## K. RECREATION

### 1. Affected Environment

Located within this allotment area are the Jawbone Canyon and Dove Springs Off Highway Open areas. These two designated open areas are the two most popular off-highway vehicle recreation areas managed by the Ridgecrest Field Office. Annual visitation to these locations is estimated to be in the hundreds of thousands per year with people traveling predominantly from southern and central valley regions of California. Visitors to these areas partake in such recreational activities as camping, motorcycle touring, ATV riding, and four-wheel driving.

Additionally within the allotment is roughly 30 miles of the Pacific Crest Trail (PCT), a hiking and equestrian use only trail that stretches for more than 2,000 miles from the Mexico border all the way to Canada. This hiking trail receives hundreds of visitors annually some just out for a day hike to others that plan on hiking the whole 2,000 miles. Also along portions of the northern and western boundaries of the allotment are the Kivah and Bright Star Wilderness areas. Refer to the Wilderness section for details.

The public lands in the allotment also provide a wide range of outdoor recreational opportunities and experiences including backpacking/hiking, horseback riding, mountain biking, camping, hunting upland game birds as well as large mammals, nature study, birding, ATV and motorcycle riding, four-wheel driving, rock hounding/mineral collecting, and target shooting. Almost annually Special Recreation Permits for use within the borders of the allotment have been issued to guides and promoters of both dual sport motorcycle tours and interpretive jeep tours.

### 2. Environmental Consequences

a. <u>Impacts of Proposed Action</u>

While participating in casual and permitted recreational pursuits participants may encounter such range improvements as fence lines, closed gates, cattleguards, corrals and water developments as well as encountering cattle on the public lands. While range improvements such as closed gates and cattleguards may delay ones recreational pursuits these impediments do not create a significant impact on recreational opportunities. Conversely the sighting of livestock grazing on the open range is often very intriguing and of interest to visitors and enhances ones recreational experience.

b. Impacts of No Action

The impacts of the No Action are the same as for the Proposed Action.

c. Impacts of no Grazing

The elimination of grazing would have little effect on recreational opportunities in the region except for eliminating the experience of seeing cattle on the open range of the "Wild West.". Until all range improvements were removed recreational participants may still encounter the remnants of these developments which may delay but not prohibit pursuing one's recreational interest.

## L. SOCIAL AND ECONOMIC VALUES

### 1. Affected Environment

The Rudnick Trustees employ a small number of people but the ranch is a very visible part of the local economy because of the land which is either owned or leased. Furthermore, they have a tradition of having ranched in the area for over 50 years. Throughout the last 20 years the public lands on the allotment have had to accommodate a large increase in recreational activity. Because the Rudnick Trustee holdings are among the largest in the community it is safe to say that they contribute a modest amount of business to local vendors in the community at large. However, it is also safe to say that recreationists and other businesses contribute at least as much to the local economy.

### 2. Environmental Consequences

a. Impacts of Proposed Action

The proposed action would have little impact on the local economy. The Rudnick Trustees would not be able to graze year round in Sheep Troughs pasture because the pasture would be included in the pasture rotation. This would affect their economic well being to some extent but other pastures remain available for grazing with proper management.

b. Impacts of No Action

The impacts of the No Action are the same as for Proposed Action.

c. Impacts of No Grazing

The No Grazing Alternative would cause the loss of the small number of jobs for which the Rudnicks are responsible and impair local businesses that do business with the Rudnicks. The significance of this is not immediately known or quantifiable. However, it would contribute to the erosion of the traditional character of the community that is associated with ranching.

### 3. References

Listed at the end of the document.

## M. SOILS

### 1. Affected Environment

No current soil surveys exist for the allotment area. One old (1976) survey exists for portions of SE Kern County which lies south of the allotment. The surveys did not include ecological site descriptions and emphasized crop potential and engineering characteristics. Two soil surveys are underway in the area. These are the Jawbone Butterbredt ACEC Soil Survey and the Kern River Valley Soil survey. Soils in the area are generally poorly developed, well drained and coarse textured. The soil depth ranges from deeper alluvial materials to very shallow or non existent over the rocky substrate. Clay and calcium layers occur at various depths in some areas. The soils are susceptible to accelerated erosion from wind and water especially when the surface has been disturbed. Much of the soil has been subject to periodic disturbance due to livestock grazing for 140 years. Additional soil disturbance is occurring as a result of OHV use in the general area plus two OHV open areas and utility Right-of-way maintenance on the two Los Angeles Aqueducts and a power line corridor.

Soil stability was evaluated in the Rudnick Common Allotment as part of the Rangeland Health evaluations. Forty four upland sites were evaluated and the soil surface factor (SSF) in the allotment averaged 11.3 which is in the stable range. One site sampled was in the Jawbone Canyon Open Area which has heavy OHV and camping use. This site had a SSF of 88 which is in the severe range. Soil impacts were noted at a number of sites where cattle were concentrating. Most of these were developed sites at management facilities such as water developments and corrals. Other sites with SSF ratings above 20 (in the slight range) noted recent flood damage.

### 2. Environmental Consequences

a. Impacts of Proposed Action

Direct impacts to soils could occur as a result of the hoof action of the cattle. Different impacts would occur to soils from different portions of the grazing operation. Established watering sites and corrals both concentrate the cattle into a small area resulting in nearly continuous trampling impacts to those sites. The trampling has resulted in increased compaction in the soil surface, elimination of vegetative cover, and destruction or disruption of biological soil crusts at these sites. Additional new impacts to soils at the established sites are unlikely. Some developed water sites in the allotment are nonfunctional resulting in the cattle moving away from the unwatered areas toward the remaining sites that have adequate drinking water. The result has been a very uneven use pattern developing with numerous areas having no grazing use while others have heavier extended use. Sometimes the use is concentrated around riparian area for watering. In addition the cattle tend to rest and concentrate on the adjacent stream side benches especially later in the season when the temperatures increase causing soil compaction

and reductions in vegetative cover for the soils. All of the identified sites where cattle were a factor in not meeting rangeland health standards were associated with riparian areas. Poor management practices by the ranchers have exacerbated the problem. A number of the identified problem sites have recently been fenced to exclude livestock.

As opposed to the intense use at concentration areas including watering and management facilities, the general grazing use is an extensive use with the animals and their hoof action spread over large areas. This use can be best characterized as a series of small impacted spots (hoof marks) with large areas of interspace. This use would not result in the loss of vegetative cover or cause increased compaction and reduced infiltration rates. It would result in a small increase in wind and /or water erosion potential over the background levels. Increased SSFs were noted at a number of sites where there was evidence of a flood event. As most of the intense use sites are on shallow slopes, the increased water erosion is expected to be negligible and very localized. Wind erosion could occur on disturbed sites during the common high wind events in the spring. Wind erosion would result in losses of small particles from the surface and increased particulate emissions. The wind erosion losses diminish quickly over time as the small particles are lost from the surface. Wind and water erosion rates would only slightly exceed natural rates. The current SSF ratings for the allotment would not be expected to change significantly as a result of the proposed action.

b. Impacts of No Action

The proposed action's change in season of use or riparian exclosures in pastures with important riparian areas is important in that it addresses fundamental problems with the existing situation. These problems include cattle concentrating and loitering around natural waters and continuous repeated grazing during the critical growing season. The dependence of the cattle to water on the riparian zone would continue at a lower level with just the season of use restriction. Repairing existing water developments and developing new waters away from natural waters would help eliminate the dependency to water on riparian areas. Fencing would totally exclude cattle from the riparian areas allowing them to reach and/or maintained proper functioning condition.

c. Impacts of No Grazing

Elimination of grazing would eliminate any additional impacts to soils as a result of cattle grazing. Soils at concentration areas would slowly return to a more natural compaction rate, infiltration rate and stability.

## N. SPECIAL STATUS PLANTS:

### 1. Affected Environment

Four special status plant species are known in the Rudnick Common Allotment area. These are Charlotte's phacelia (*Phacelia nashiana*), Spanish Needle onion (*Allium shevockii*), Mojave tarplant (*Deinandra (Hemizonia ) mohavensis*) and Kelso Creek monkeyflower (*Mimulus shevockii*). The Mojave tarplant is state listed as Endangered. An additional special status

plant species, Piute Mt. jewel flower (*Streptanthus cordatus var piutensis*), although not found on the Rudnick Common allotment, it is found several miles southwest of the allotment on private lands. The Spanish Needle onion occurs outside areas where cattle can access. Charlotte's phacelia occurs on moderate to steep slopes over a wide area along the east side of the Sierras from Rose Valley south to Jawbone Canyon. Charlotte's phacelia is generally found on talus slopes and adjacent to roads and trails where there is some soil movement. In the Rudnick Common Allotment, populations have been located on moderate slopes that are susceptible to grazing. The Kelso Creek monkey flower occurs over a limited range along Kelso Creek and near Lake Isabella. Several of the known populations occur in the Rudnick Common Allotment. Survey work for the species is spotty. Additional survey work is continuing which may turn up additional populations and knowledge of the species. The West Mojave Plan (USDI BLM 2005b) established the Kelso Creek Monkey Flower ACEC. The West Mojave Plan direction includes additional surveys, range health assessments, adjusting ACEC boundaries to include new populations as discovered, close routes that threaten populations, evaluating impacts of grazing on populations, adjusting grazing practices if necessary and possible acquisition of lands with new discovered populations.

**2. Environmental Consequences**

a. Impacts of Proposed Action:

Special status plant populations can be lost if actions result in loss or modification of the habitat necessary for their existence. If habitat losses occur at many sites then the specie could be eliminated. Some incidental grazing may occur on one population of Charlotte's phacelia in the Robbers Roost area. This incidental use has been occurring for over 100 years and is not expected to jeopardize the continue existence of this population or the species. Grazing use in the Kelso Creek pasture could adversely impact populations of the Kelso Creek monkey flower. Little is known about the impact of cattle on the monkey flower. The Kelso Creek monkey flower is a low growing annual that only seems to germinate during better than average springs. This may help protect the species as it would be a smaller target and there would be other forage available. The West Mojave Plan directs additional studies on potential impacts to the Kelso Creek monkey flower and modifying grazing practices if necessary.

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b. Impacts of No Action

The no action alternative would result in few changes in impacts to special status plants from the proposed action.

c. Impacts of no Action:

No special status plants will be impacted by this alternative.

d. Consultation

There are no federal listed plant species that require consultation

## O. WASTE, HAZARDOUS OR SOLID

### 1. Affected Environment

Detailed surveys of hazardous or solid wastes have not been undertaken on this allotment. BLM maintains no records of reportable spills in the allotment. Although use of motorized vehicles and equipment by the livestock operator may have resulted in periodic and scattered spills or releases of fuel and petroleum products in the allotment, none are documented. For this reason we believe that the proposed action and the alternatives would have no affect on hazardous or solid waste.

## P. WATER QUALITY, SURFACE AND GROUND WATER

### 1. Affected Environment

The Rudnick Common Allotment is located on the western edge of the Mojave Desert. The climate and annual precipitation is typical for the desert environment. Mean annual perception rates range from 4 inches near Freeman Junction to a projected 15+ inches along the Sierra Crest. Large variations in yearly perception volumes are common. Most of the perception comes in the form of rain at the lower elevation and many times snow at the highest elevations. Most of the perception falls between November and mid March. Large summer rain events are not common, but occasionally, can be significant causing considerable watershed damage. As an example, several large summer events occurred in the allotment in 1997. At that time the wash in Red Rock Canyon flowed an estimated 28,000 cubic feet a second and went over highway bridges. Watershed damage was noted at a number of sites during the rangeland health assessments that were a result of those events. A number of canyons drain through the allotment from the Sierra crest with water draining to the northeast into the Indian Wells Valley, southeast into Fremont Valley and northwest into the Kern River. Riparian areas are found in many of the canyons and more or less permanent flowing stream reaches exist in most of the major canyons. The stream flow in the canyons is intermittent in many cases and disappears at the mouth of the canyons into deep alluvium. A number of seeps and springs occur in many of the canyons. The "Water/Riparian Areas" table below lists the natural waters in and adjacent to the Rudnick Common Allotment. These sites are identified on the "Water/Riparian Areas" map in the Appendix 4. Three of the listed sites are along the allotment boundary on U. S. Forest Service Land and provide water to cattle grazing on the allotment. As noted in the appendix 4, a number of sites have been developed for livestock water. As a result of findings from the rangeland health and other studies, BLM has been actively protecting water sources identified as needing protection. As a result, most of the waters have been excluded from livestock use. Remaining areas of concern include Lower Butterbredt Canyon, Cottonwood Canyon, Hoffman Canyon, Hoffman Spring Canyon and Jawbone Canyon.

| Water/Riparian Areas<br>Rudnick Common Allotment | | |
|---|---|---|
| Number | Name | Notes |
| 1 | Alphie Canyon | No livestock access |
| 2 | Axelson Spring | Most on pvt. mostly fenced |

| | | |
|---|---|---|
| 3 | Boulder Spring | some fencing no H2O Quality issues |
| 4 | Boulder Canyon | No livestock access |
| 5 | Bright Star Canyon | No livestock use |
| 6 | Burning Moscow Spring | No livestock use |
| 7 | Butterbredt Spring | Mostly pvt. Fenced |
| 8 | Butterbredt Canyon | Some fencing … Needs additional protection |
| 9 | Colt Spring | Fenced on Forest Service |
| 10 | Cottonwood Canyon | Mixed BLM-pvt. Needs protection |
| 11 | Cowboy Spring | No livestock access |
| 12 | Cow Heaven Spring | Fenced |
| 13 | Dove Spring | Fenced |
| 14 | Dove Springs Canyon | Fenced |
| 15 | Frog Spring | Mostly pvt... pvt fenced |
| 16 | Hoffman Canyon | Mostly pvt. BLM Needs protection (approx ¼ mile on BLM) |
| 17 | Hoffman Well Canyon | Mostly pvt. BLM Needs protection |
| 18 | Horse Canyon Spring | Fenced . on Forest Service |
| 19 | Jawbone Canyon | Mostly pvt. BLM Needs protection |
| 20 | Kelso Creek | Fenced |
| 21 | Nicolls Spring | Fenced |
| 22 | Nudist Spring | Fenced |
| 23 | Quail Spring | Mostly pvt. Fenced |
| 24 | Rock Spring | No free water non functional |
| 25 | Sage Canyon Spring | Fenced |
| 26 | Sage Canyon | Mostly pvt |
| 27 | Sageland Spring | Mostly pvt. May need protection |
| 28 | Shoemaker Spring | Mostly pvt |
| 29 | Western Spring | Fenced |
| 30 | Williams Spring | Needs protection |
| 31 | Willow Spring | Fenced |

Some livestock watering sites have been developed using water from the L.A. Aqueduct. Groundwater has been developed at eight sites in the allotment. These sites are Highway Well, Horse Canyon Well, Dove Well, Bishop's Claim Well, Jawbone Well, Pinyon Well, Whitney Well, and Kelso Road Well. Currently Dove, Highway and Horse Canyon Wells are nonfunctional due to repeated vandalism of the windmill and tower. Horse Canyon Well has been replaced by a pipeline that runs from Boulder Spring. Jawbone Well is sanded in and has been replaced by a pipeline that runs from Cutterbank Spring on Cross Mountain to the well site. In most cases, the depth to water is less than 200 feet at the well sites.

The U.S. Geological Survey identified portions of three large watersheds in the allotment. These are the Indian Wells-Searles Valley basin, the Antelope-Fremont Valley basin and the South Fork of the Kern River basin. Water flows from Kelso Creek into the south fork of the Kern River. Storm water flows from the remainder of the Rudnick Common Allotment end up in one of two closed watershed basins. Flows from Kelso Valley, Dove Wash and the Jawbone drainage ends up in Koehn Lake with the remaining flows ending up in China Lake, one of

several closed sub-basins within the Indian Wells-Searles Valley basin. The Final Unified Watershed Assessment (1998) classified the three watersheds as category 1 (impaired) low priority watersheds. This classification indicated that this watershed was impaired but of a lower priority to receive Clean Water Action Plan grants from the federal Nonpoint Source Program. Two Los Angeles Aqueducts and a power line corridor cross the allotment north to south. In addition a Kern County road (Kelso Valley Road) crosses the allotment east to west through Jawbone Canyon and Kelso Valley. The two aqueducts and the Kelso Valley Road have had large erosion problems associated with them. These problems are generally the result of poor drainage design with water being dumped down steep slopes causing large gullies and sedimentation.

The Lahontan and Central Valley Basin Plans identify beneficial uses (chapter 2) and water quality objectives (chapter 3) for the surface waters in the allotment. The basin plan lists specific beneficial uses as standards to maintain or meet. For many of the sources, the plan states that beneficial uses includes municipal, agricultural, ground water recharge, recreation 1 & 2, warm water fisheries, cold water fisheries and wildlife. The minor wetlands category has an additional beneficial use of freshwater recharge.

The Clean Water Act and the UESEPA classify water pollution from rangelands as nonpoint source pollution (NSP). Management of NSP is through a series of management practices called best management practices (BPS). According to the USEPA, "The restoration or protection of designated water uses is the goal of BMP systems designed to minimize the water quality impact of grazing and browsing activities on pasture and range lands." Management practices can minimize the delivery and transport of pollutants to surface and ground waters. According to the USEPA, management practices control the delivery of NPS to receiving water resources by:

- minimizing pollutants available;
- retarding the transport and/or delivery of pollutants; and/or,
- remediation or intercepting the pollutant before or after it is delivered to the water resource.

The USEPA has produced guidance titled National Management Measures to Control Nonpoint Pollution from Agriculture. In that document section 4E addresses grazing management. The following grazing management measure is taken from that document:

> "Manage Rangeland, pasture and other grazing lands to protect water quality and aquatic and riparian habitat by:
>
> > 1. Improving or maintaining the health and vigor of selected plant(s) and maintaining a stable and desired plant community while, at the same time, maintaining or improving water quality and quantity, reducing accelerated soil erosion, and maintaining or improving soil conditions for sustainability of the resources. These objectives should be met through the use of one or more of the following practices:

a. maintain enough vegetative cover to prevent accelerated soil erosion due to wind and water;

b. manipulate the intensity, frequency, duration and season of grazing in such a manner that the impacts to vegetation and water quality will be positive;

c. ensure optimum water infiltration by managing to minimize soil compaction or other detrimental effects;

d. maintain or improve riparian and upland vegetation;

e. protect streambanks from erosion;

f. manage for deposition of fecal material away from water bodies and to enhance nutrient cycling by better manure distribution and increased rate of decomposition; and,

g. promote ecological and stable plant communities on both upland and bottom lands sites.

2. Excluding livestock, where appropriate, and /or controlling livestock access to and use of sensitive areas, such as streambanks, wetlands, estuaries, ponds, lake shores, soils prone to erosion, and riparian zones through the use of one or more of the following practices:

a. use of improved grazing management systems (e.g. herding) to reduce physical disturbance of soil and vegetation and minimize direct loading of animal waste and sediment to sensitive areas;

b. installation of alternative drinking water sources;

c. installation of hardened access points for drinking water sources;

d. placement of salt and additional shade, including artificial shelters, at locations and distances adequate to protect sensitive areas;

e. provide stream crossings, where necessary, in areas selected to minimize the impacts of the crossings on water quality and habitat; and,

f. use of exclusionary practices, such as fencing (conventional and electric), hedgerows, moats and other practices as appropriate

and

3. Achieving either of the following on all rangelands, pastures and other grazing lands not addressed above:

a. apply the planning approach of the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) to implement the grazing land components in accordance with one or more of the following from NRCS: a Grazing Land Resource Management System (RMS); National Range and Pasture Handbook (USDA-NRCS, 1997b); and NRCS Field Office Technical Guide, including NRCS prescribed Grazing 528A;

b. maintain or improve grazing lands in accordance with activity plans or grazing permit requirements established by the Bureau of Land Management, the National Park Service, or the Bureau of Indian Affairs of the U.S. Department of Interior, or the USDA Forest Service; or other federal land manager."

The text in number 3 above is included in the state of California guidance called California Nonpoint Source Encyclopedia (SWRCB 2004) updated July 2004.

**2. Environmental Consequences**

a. Impacts of Proposed Action

A number of items in the proposed action would improve water quality in the Rudnick Common Allotment. The USEPA guidance for nonpoint source pollution from rangeland lists management practices to control the delivery of NPS to receiving water including: minimizing pollutants available; retarding the transport and/or delivery of pollutants; and/or, remediating or intercepting the pollutant before or after it is delivered to the water resource. The proposed action accomplishes these through the application of practices which are USEPA listed best management practices. The proposed action's change in season of use or fence riparian areas is important in that it addresses two fundamental problems with the existing situation. These two problems are cattle concentrating and loitering around natural waters and continuous repeated grazing during the critical growing season in the riparian areas. Elimination of grazing in riparian areas through restrictions in season of use would eliminate grazing during and the critical growing season which would improve the riparian vegetation necessary to intercept pollutants. Fencing would eliminate all direct pollution of the water and improve the vegetation necessary to intercept pollutants. The proposed action would arrest further degradation of the riparian zone, allow stabilization and then recovery of concentration areas and allow vegetation recovery, especially key forage species. The total exclusion by fencing would be to preferred action as it totally excludes direct loading of animal waste and sediment to the riparian zone by the cattle and would have the best vegetation recovery rates. This would bring the allotment into compliance with Rangeland Health Standards. The improved vegetation cover would stabilize sites and intercept sediments. The proposed action complies with the USEPA guidance which says to use one or more of the recommended practices. It also follows both state and USEPA guidance to follow BLM land use plan guidance (standards and guidelines). The proposed action does not represent point source impacts to water quality and no 401 permit is necessary. Impacts from the proposed action represent non-point-source impacts which are controlled by the implementation of Best Management Practices (BMP). The Regional Water Quality Control Board is considering a permitting system for non-point-

source sources. Water consumption would not exceed 13 acre feet for the grazing season at full stocking rates which is a very small percentage of the water in the area.

b. Impacts of No Action

Range inspections and Rangeland Health Assessments have documented a number of sites with problems affecting water quality in the allotment. Eleven sites were identified that did not meet rangeland health standards. Five of the sites that did not meet standards were a result of livestock use. The sites not meeting standards are likely to contribute directly or indirectly to the degradation of water quality. All the sites not meeting standards were in riparian areas. On some of these sites, cattle use directly in the water was observed. On these sites cattle were contributing sediments, chemical and bacteriological pollutants directly to the water. The opening of the canopy and spreading out of the water also causes increased water temperatures and higher evaporation rates. It is generally recognized that sediment produced by runoff is the most significant pollutant from rangelands. Upland sites that do not meet health standards have less protective cover to slow overland flow and hold sediment in place. All of these factors would cause the water to not meet water quality standards. The existing situation doe not represent point source impacts to water quality and no 401 permit is necessary. Impacts from the existing situation represent non-point-source impacts which are controlled by the implementation of Best Management Practices (BMP). The Regional Water Quality Control Board is considering a permitting or waver system for grazing non-point-source sources.

Reduced ground cover on the uplands and destruction of the protective cover in the riparian zones was observed on the Rudnick Common Allotment. Both of these factors can contribute to increased watershed damages during high flow events. In addition, more runoff and less infiltration could result. It is doubtful that grazing use contributed to the watershed damage observed after the 1997 flood event.

*Recommended Mitigation for No Action Alternative:*

Apply best management practices to mitigate water quality problems as follows (these are also included in the Rangeland Health Determinations for the Rudnick Common Allotment):

Modify the grazing management in pastures with important riparian areas or fence out riparian areas to achieve the following:

- Avoid grazing in riparian areas during the warm /hot season to reduce concentration on the riparian areas.
- Reduce grazing pressure during the spring growing season to allow recovery of the key species and protective plant cover in the riparian areas.

- Achievement of rangeland health standards.

Develop more specific triggers for riparian zone monitoring along with specific immediate actions necessary if over use is observed, including the following:

- Add all riparian areas, including the adjacent benches, as key areas for monitoring in the Rudnick Common Allotment AMP.

- Add salt grass, sedge, rushes and willows to the key species list along with their proper use factors to the Rudnick Common Allotment AMP. The PUFs would be salt grass (30%), sedge (30%), rushes (30%) and willow (10%).

Implement the AMP especially the following items:

- Repair water developments to encourage cattle to concentrate away from the riparian areas onto previously impacted sites.
- Repair existing pasture and riparian area fences.
- Develop new water sites away from natural water.
- Implement the rotational grazing system.
- Encourage better movement of livestock by the rancher.

c. Impacts of No Grazing

No impacts to water resources would occur due to cattle grazing since no grazing would be authorized.

## Q. WETLANDS/RIPARIAN ZONES

### 1. Affected Environment

Table- Q1 lists most of the important riparian areas on the allotment and table 4B in the appendix 4 lists additional attributes for these areas. BLM evaluated the major riparian areas using the Extensive Stream Riparian Inventory (Myers, 1989) in 1993 and again in 2001 (Table 4B, in the appendix 4). The Bureau also evaluated many of these same areas for Proper Functioning Condition (PFC) as part of the Rangeland Health Assessment. Sixteen of these sites were evaluated with eleven meeting PFC, and four not meeting PFC.

Table Q1

| Name of Riparian Area | Acres of Riparian | Length of Riparian (ft) | Average Width Riparian (ft) | Rangeland Health Assessment "Met" | Proper Functioning Condition Rating | Comments |
|---|---|---|---|---|---|---|
| Axelson Spring | 4.5 | 1,801 | 108 | Met | PFC | Fenced |
| Burning Moscow Spring | 2.4 | 10,524 | 10 | Met | Functional At Risk | Spotty riparian areas, narrow channel, drop into canyon crossing private land. OHV impacts |
| Butterbredt Canyon | 24.5 | 12,575 | 84.25 | Not Met (1/2 tamarisk) Met (1/2) | Functional At Risk | Cattle south of fenced spring, moderate use, OHV impacts Needs fencing. Tamarisk treated. |
| Cottonwood (Lower) | 13 | 12,000 | 50 | Not Met | Non Functioning/ Functional At Risk | Longterm cattle impacts; no regeneration, no trees younger than 8 yrs, no strembank protection. No data, from aerial photograph, needs ground- truth |
| Cottonwood (Upper) | 11 | 8,871 | 55 | Not rated | Not rated | No data, from aerial photograph, needs ground- truth |
| Dove Spring Canyon | 3.6 | 1,940 | 80 | Not Met | Not Functional | Now Fenced, previously heavily impacted by cattle and OHVs, no |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | under-story or ground cover in 2002 |
| Frog Spring | .75 | 992 | 33.89 | Met | PFC | |
| Hoffman Canyon | 2.5 | 1410 | 80 | Not met | Non Functioning | Tamarisk, cattle grazing, surrounded by private land |
| Kelso Creek (Rocky Point) | 14.3 | 2,788 | 224 | Met | Functional At Risk | Cattle Use, now fenced |
| Woolstaff Creek | 2.1 | 1,095 | 84.3 | Met | Functional At Risk | fenced |
| Kelso Creek (Upstream, stretch in Bright star Canyon) | 6.4 | 2,558 | 108.3 | Met | Functional At Risk | Slight cattle use |
| Kelso Creek (West) | 20 | 5,889 | 149 | Not Rated | PFC | Mainly trespass cattle, fenced along road. |
| Kelso Creek (Mid) | 24 | 4,104 | 255 | Met | Functional At Risk | Some area impacted by cattle grazing. |
| Nudist Spring | .75 | 285 | 60 | Met | PFC | Fenced, but small patch outside exclosure |
| Sage Spring | 7.61 | 3,103 | 106 | Met | Functional At Risk | Exclosure, small acreage outside exclosure |
| Williams Spring | .5 | 1,000 | 20 | Met | Functional At Risk | Cattle use above and below spring |
| Willow Spring (spring) | .25 | 150 | 30 | Met | PFC | Fenced |
| Willow Spring (pond) | .5 | n/a | | Not Met | Non- Functional | Heavy cattle grazing, watering site, proposed fencing |
| | | | | | | |
| Totals | 124.48 | 11.5 miles | | | | |

.

Cattle grazing and OHV activity impact most of the areas to some degree as seen above. Many areas were Functional- At- Risk. The lower portion of Butterbredt Canyon did not meet because of tamarisk infestation. BLM eradicated this population in 2004/2005. OHV activity is a contributing factor in Butterbredt Canyon. This canyon did have Riparian Condition Ratings (4B in appendix 4) of 3.37 and 3.73 for two different reaches, between “good” and “excellent”. Dove Spring canyon, had ratings of 2 and 2.62 (“fair”), and didn’t meet the standards because of trespass OHV and cattle impacts. In general, those with the highest ratings have little or no grazing and OHV activity. None of the areas were rated “poor”.

BLM staff and contractors (McAlexander, 2001) rated about half (4.66 miles) of the 9.5 miles (Table Q1) in 2001 but had rated only Butterbredt Canyon, Dove Springs Canyon and Nudist Spring in 1993. The “good” areas went from 4% to 40%. The miles of riparian increased from 2.558 miles in 1993 to 3.12 miles in 2001, a half mile increase. This expansion of the riparian community represents a significant increase.

In 2001, McAlexander rated the same areas plus portions of Kelso Creek as well as some smaller areas, both fenced and unfenced. 30% of the 4.66 miles were “good-excellent”, 37% in “good”, 27% in “fair- good”, and only 6% in “fair”.

Table Q2

| Rating Category | Rating | 1993 Miles | 1993 % | 2001 Mile | 2001 % | 2001 Miles | 2001%* | All mil |
|---|---|---|---|---|---|---|---|---|

| | | | | s | | * | | es |
|---|---|---|---|---|---|---|---|---|
| 1- 1.4 | Poor | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1.5- 1.9 | Poor-Fair | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2.0- 2.4 | Fair | 1.4 | 54.7 | .3 | 6.4 | .3 | 9.6 | .91 |
| 2.5- 2.9 | Fair-Good | .47 | 18.4 | 1.24 | 26.6 | .33 | 10.6 | 1.01 |
| 3.0- 3.4 | Good | .588 | 23 | 1.74 | 37.4 | 1.31 | 42 | 3.99 |
| 3.5- 4.0 | Good-Excellent | .1 | 3.9 | 1.38 | 29.6 | 1.18 | 37.8 | 3.59 |
| Total | | 2.558 | 100 | 4.66 | 100 | 3.12 | 100 | 9.5 |

* Butterbredt, Dove, and Nudist Spring, done both in 1993 and 2001.

**2. Environmental Consequences**

a. Impacts of Proposed Action

Implementing the actions recommended in the Proposed Action would effectively reduce the impacts from cattle grazing on the riparian areas to a non- significant level, raising the ratings of all areas to "good". Human and natural activities to the fencing will slow down the restoration of the areas. The Kelso Creek fences, being along a paved road, are the most vulnerable to damage. With cooperation from local volunteers and ranchers to help maintain the riparian exclosure fencing, the impacts to the riparian community would be negligible.

The proposed action, with fencing would result in all the areas being in "good" and above (table Q3), but not excellent due to natural and human factors. Almost 6 miles would be in the "Good-Excellent" category.

Table Q3

| Rating Category | Current Rating | Current Mileage | Current % | Goal Mileage | Goal % | All areas Miles |
|---|---|---|---|---|---|---|
| 1- 1.4 | Poor | 0 | 0 | 0 | 0 | 0 |
| 1.5- 1.9 | Poor- Fair | 0 | 0 | 0 | 0 | 0 |
| 2.0- 2.4 | Fair | .3 | 6.4 | 0 | 0 | 0 |
| 2.5- 2.9 | Fair- Good | 1.24 | 26.6 | 0 | 0 | 0 |
| 3.0- 3.4 | Good | 1.74 | 37.4 | 1.75 | 37.5 | 3.58 |
| 3.5- 4.0 | Good-Excellent | 1.38 | 29.6 | 2.91 | 62.5 | 5.97 |
| Total | | 4.66 | 100 | 4.66 | 100.0 | 9.55 |

The mitigation developed for the Current Management has been incorporated into the Proposed Action. BLM will establish an inspection and maintenance protocol specifying who will do the inspections and when, along with maintenance responsibilities. BLM will complete the inventory of riparian areas on the allotment within the 5 years. There would be little residual impact, although, even with the projects in place, natural events and human activity will reduce the effectiveness of the projects and allow impacts to occur. Maintenance will be the key in ensuring that in the long term residual impacts will be held to a minimum.

b. Impacts of No Action

The rotation system will rest certain pastures but within those pastures livestock will congregate in the riparian areas, especially in the summer months. Vegetation that has grown up during the two year rest may be consumed, ensuring there will continue to be problem "non-met" areas. Grazing in June, July and August will be especially hard on the vegetation, resulting ".in severe negative impact on riparian trees and shrubs (EPA, 1993)."

The "not met" areas would not come into PFC. Areas with poor ratings would not likely improve and the areas in better condition could decline. Additional descriptions of impacts on riparian resources can be found in the analysis on special status and T&E riparian species. Under the spring-summer grazing strategy, there would be no improvement in the ratings. Using the same percentages obtained for the 4.66 miles, we would find that for the 9.5 miles there would be 2.83 miles in "good-excellent", 3.57 in "good", 2.54 in "fair-good", and .61 in "fair". There would still be 33% of the riparian areas in only "fair" condition, significantly less than under the Proposed Action.

Table Q4

| Rating Category | Rating | Mileage | % | All areas Miles |
|---|---|---|---|---|
| 1- 1.4 | Poor | 0 | 0 | 0 |
| 1.5- 1.9 | Poor- Fair | 0 | 0 | 0 |
| 2.0- 2.4 | Fair | .3 | 6.4 | .61 |
| 2.5- 2.9 | Fair- Good | 1.24 | 26.6 | 2.54 |
| 3.0- 3.4 | Good | 1.74 | 37.4 | 3.57 |
| 3.5- 4.0 | Good- Excellent | 1.38 | 29.6 | 2.83 |
| Total | | 4.66 | 100 | 9.5 |
| | | | | |

*Recommended Mitigation for the No Action alternative:*

1. Impacted riparian areas will be fenced, with water available outside the fence and well away from the riparian zone. Some specific fences have already been built and others are slated for construction (at Kelso Creek, Williams Spring, Butterbredt Canyon, Willow Spring, and others). The following areas will be fenced.

a. Butterbredt Canyon (fencing proposed)
b. Kelso Creek West (1 mile if necessary)

c. Kelso Creek (Mid- just under 1 mile if necessary)
d. Williams Spring (1/8 mile- Project proposed)
e. Willow Springs pond (Project proposed)

2. Tamarisk will be removed from all riparian areas.

3. Trees may be planted in problem areas and temporarily fenced until large enough to withstand grazing pressure.

4. Other mitigation could include shifting grazing from late spring/summer to winter/early spring

Fencing would reduce the impact to riparian systems, but unless regularly inspected and maintained, cattle would get into the exclosures.

c. Impacts No Grazing

Under this alternative there would be no impacts to riparian vegetation from authorized grazing. Theoretically the table for ratings of the riparian areas would be similar to the Proposed Action table. The riparian areas would still not all fall into the highest category because of other activities impact riparian values. Floods will continue to reduce the rating as will OHV and recreational activities, trespass cattle, and human-caused fires.

d. Consultation

Rocky Thompson, California Department of Fish and Game, Region 4
Judy Hohman, U. S. Fish and Wildlife Service, Ventura Office

## R. WILD AND SCENIC RIVERS

### 1. Affected Environment

The proposed action and the alternatives would have no affect on wild & scenic rivers because there are no rivers so designated on the allotment.

## S. WILDERNESS

### 1. Affected Environment

The Rudnick Common allotment contains approximately 44,800 acres of wilderness. There are approximately 35,200 acres in Kiavah Wilderness and another 7,500 acres within the Bright Star Wilderness.

The Kiavah Wilderness is located at the southern extremity of the Sierra Nevada Mountains and encompasses the eroded hills, canyons, and bajadas of the Scodie Mountains Unit within the Jawbone Butterbredt ACEC and Sequoia National Forest.

The wilderness is a popular camping, hiking, backpacking, and wildflower viewing area. The Pacific Crest National Scenic Trail runs along the entire backbone of this wilderness from Bird Springs Pass north to Walker Pass. In addition, the countryside is generally open and gentle enough to afford many opportunities for cross-country hiking in canyons and along ridges. Many fine wilderness opportunities for experiencing naturalness, solitude, primitive and unconfined recreation exist throughout the area.

Since designation, wilderness management has focused on restoring the area to a more natural and untrammeled state. Initiatives have revolved around the disguising and rehabbing of old vehicle ways and the signing and building of more effective vehicle barriers outside and along the wilderness boundary. More than 35 miles out of a total 70 miles of old vehicle ways have been restored.

Currently there are a total of eighteen existing functioning and non-functioning range developments inside of the Kiavah Wilderness. All of these developments pre-existed wilderness designation in 1994, but not all were functioning and in use at the time of designation. Of the eighteen, eleven are currently operative and in-use. They include 4 fences, 1 tank, 3 troughs, 2 pipelines, 4 exclosures, 6 spring developments, and 1 well. These are maintained in a variety of ways, none of which requires motorized access, the use of motorized or mechanized equipment, or any other action normally prohibited under the Wilderness Act. Seven are dysfunctional and two of these are proposed for reconstruction (Cow Heaven Spring Development 5056 on Sequoia and Cow Heaven Tank and Trough 5413 on Ridgecrest BLM). One (the Boulder Springs exclosure fence) is slotted for reconstruction and expansion to better protect riparian and cultural values on-site. A new drift fence located west of the saddle at Bird Springs Pass and west of the PCT is also proposed to keep cattle in their respective pastures on opposite sides of the pass.

The Bright Star Wilderness is located west of Kelso Valley in the Kelso Mountains contiguous with the Piute Mountain Range in Sequoia National Forest. The wilderness surrounds Kelso Peak and associated drainages to the north, south, and east. A legislated corridor leading to a route on the Sequoia National Forest splits the wilderness into 3 units. The entire wilderness is included in the Jawbone-Butterbredt Area of Critical Environmental Concern which was set aside for its cultural and wildlife values.

The Bright Star Wilderness is mostly natural and pristine, surrounded by Forest and private land on nearly all sides. Access to the wilderness area through the open vehicle corridor is entirely through private lands. Virtually all vehicle trespass problems occur off of this corridor. While most trespass sites have been successfully barricaded and restored, a few, including a site leading to a cabin continues to be a problem.

Within the Bright Star Wilderness area, the range facilities have no maintenance needs, no motorized access needs, nor are there any sites needing specialized resource protection. There are currently 2 range developments: 1 fence (2 miles) and 1 cattleguard.

There are no wilderness management plans for these wilderness areas that address grazing.

**2. Environmental Consequences**

a. Impacts of Proposed Action

Cattle grazing is an authorized use in Wilderness. The level of cattle grazing is at or below the levels occurring in 1994, at the time of designation with the passage of the Desert Protection Act. Under this alternative, impacts to wilderness are not expected to occur.

All proposed actions in wilderness involving the use of motorized vehicles, or motorized and mechanized equipment, structures, installations, or any other action normally prohibited under the Wilderness Act will require a separate, project-specific Environmental Assessment with a Minimum Action/ Minimum Tool Analysis. For range structures and projects that are non-functional, an EA will help to determine first whether these improvements should be replaced, reconstructed, maintained, or removed.

b. Impacts of No Action

The impacts to wilderness of the No Action alternative are substantially the same as for the proposed action.

c. Impacts of No Grazing

There would be no impacts to wilderness caused by grazing under this No grazing alternative.

## T. WILD HORSES AND BURROS

### 1. Affected Environment

The proposed action and alternatives would have no affect on wild horses and burros because there are no herd management areas in the allotment.

## U. WILDLIFE (T&E)

### 1. Affected Environment

The Rudnick Allotment, which overlays the Jawbone- Butterbredt ACEC is basically a microcosm of the West Mojave Planning area. The analysis for this EA will reflect the EIS information but on a more site-specific level. The Affected Environment Section of the EIS for this planning effort forms the basis for the Cumulative Impacts discussion. The analysis will be more site- specific, however.

The diverse wildlife (Table 4A, appendix 4) found on the allotment have been broken down into upland, riparian and T&E species for this discussion. The roughly 240,000 acres (163,842 acres public lands and approximately 77,944 acres private lands) of the allotment have a variety of upland communities and special status species.

*Upland Species*

1. Small mammals- These populations fluctuate greatly with the climate but can be affected by overgrazing. If rangeland health standards are met, these populations will fluctuate “normally”. BLM has determined that it will manage sensitive species to prevent them from becoming listed. The yellow- eared pocket mouse, a BLM sensitive species, has been recorded at higher elevation areas and is likely to do well in the areas that “met” range standards. Six species of bats have been documented on the allotment, including BLM sensitive species (see table in the appendix 4). Bats forage for insects, spiders, and other invertebrates in upland and riparian areas. A productive vegetative community is necessary to produce these organisms. In general, if the upland plant community is meeting rangeland health standards, it is likely providing sufficient foraging habitat for bats. There were only 2 problem areas identified during rangeland health assessments, while 40- 45 sampled areas were rated as “meeting standards”.

2. Upland bird species- The group includes those that nest in this community, those that feed here (raptors), and those that migrate through and/or winter here (many species). All the native bird species on the allotment are protected under the Migratory Bird Treaty Act but some have additional protective status. Burrowing owls (BLM Sensitive) require a productive vegetative community in the vicinity of their nest (burrows) because they don't forage great distances like other raptors do. They do however; prefer shorter vegetation adjacent (5- 10’) to their burrows. Raptors, as a group use this upland primarily for hunting prey so they need a vegetative community that produces lots of rodents, rabbits, and other food. The prairie falcon, a BLM sensitive species, nests at Robbers Roost and other sites with steep cliff faces and forages over a wide area. A “met” rating indicates that raptor’s habitat needs are being met. Of the two “not met” problem areas, one is in an OHV Open Area, and another was partly affected by a flood event. BLM conducts annual winter and spring bird monitoring in the Joshua tree communities on the allotment and has found large numbers of seed-eating birds in areas with good stands of perennial grass.

3. Reptiles and amphibians- This is a group that generally does well, even under light grazing. The legless lizard is a California species of Special Concern.

4. Large mammals and “game” animals- Mountain lions, bobcats, and coyotes are found throughout the allotment and feed mostly on native prey. Mule deer and black bear are found in the western part of the allotment, both in the lower areas (Kelso Creek) and the higher elevations (Piute Mountains). Deer are hunted under CDFG regulations. The four main species of upland game birds are California quail, Mountain quail, chukar, and mourning dove (mainly ground-nesting birds) with wild turkeys at higher elevations. The “game” birds tend to range near washes, canyons, hillsides and riparian areas, avoiding the large flats.

*Riparian associated species.*

1. Birds- The majority of special status species associated with riparian vegetative communities are birds. Nesting birds, especially the special status species (Appendix 4, Table 4A) often require dense foliage at all layers, so that an area that "met" the conditions for the Rangeland Health Assessment may not necessarily meet the needs of for these species. Butterbredt Canyon, for example, has yellow warblers migrating through it in great numbers, but only a few pair may nest there. Of the roughly 9.5 miles and 114 acres (Table 4C in Appendix 4) of riparian habitat evaluated, about 16 sites met and 5 did not meet health standards (about 20 %

of the riparian sites didn't meet standards). The major canyons all had some problem areas. Only the small, fenced areas completely met standards.

2. Reptiles and amphibians- Cunningham (2003) found potential habitat along Kelso Creek and other riparian areas, but no salamanders. She did find the legless lizard (*Anniella pulchra*) at Butterbredt Spring in cottonwood leaf litter. She also found a Southern alligator lizard along Kelso Creek. These species require good rock and vegetative cover. Litter is important in providing cover for reptiles and amphibians, and their diversity increases with the amount of litter and under-story.

Table U1- Riparian areas surveyed for amphibians.

| Name of Riparian Area | Suitable of Habitat for salamanders | Suitable for Frogs | Comments |
|---|---|---|---|
| Burning Moscow Spring | ponderosa, oaks | none | |
| | Good leaf litter, fine & coarse woody debris | | OHV surrounding area, cattle grazing, ANPU found |
| Dove Spring | Poor | None | Highly disturbed, OHV and Cattle (fenced), trash, shells |
| Frog Spring | Good | Good – open water in pond | OHV heavy on dirt road next to area, cattle, bull frogs may be a factor in absence of other amphibians, RACA present |
| Hoffman Canyon (Side Canyons) | Fairly Low | | Impacts from cattle apparent. |
| Horse Canyon | Fairly low - dry | | Cattle grazing and trampling |
| Jawbone Canyon | Fair- some litter | | OHV activity |
| Kelso Creek (Audubon Preserve) | Good – deep rich leaf litter | Good – stream | Fenced, XAVI found |
| Kelso Creek (Rocky Point) | Good - microhabitats in riparian forest | Good – stream | None identified |
| Kelso Creek (Mid, south of Audubon) | Good cottonwood-willow forest, w/ leaf litter & coarse woody debris | Good – shallow pools along creek | OHV tracks, shotgun shells, XAVI, HYRE found |
| Kelso Creek (west) | Good to excellent- many moist microhabitat, fine, coarse woody debris, stones, pine bark habitat | | None identified, XAVI, HYRE, ELMU |
| Nudist Spring | Fairly good- leaf litter, debris | | None- fenced, surrounding area cattle and OHV activity |
| Sage Canyon | Excellent- good leaf litter under oaks, and willows, moist spring habitats, connected with higher Sierra forest communities | | Cattle grazing muddying and trampling the banks, stripping some vegetation, HYRE |

| | | | |
|---|---|---|---|
| Tunnel Spring | Fairly good small amount of leaf litter, moist ground cover | | Artificial flow, exotic annual plants, old cattle sign |

RACA (Bullfrog), XAVI (desert night lizard), HYRE (Pacific tree frog), ELMU (southern alligator lizard), ANPU (Legless lizard)

3. Aquatic Invertebrates- In general, this group requires good quality water with a substrate that allows feeding, reproduction, and other essential processes. *Pyrgulopsis giulianii*, a spring snail, has been collected on the allotment at a spring in Cow Heaven Canyon (Hershler and Sada, 2002). Hershler (pers. Com., 2000) indicated that the spring snails require good water quality and a specific substrate to survive. Riparian sites with a "not met" rating that are trampled by cattle have shallow, muddy sites with poor water quality. These areas probably do not have snails or other sensitive invertebrate species. These sites would act as barriers to aquatic species, fragmenting streams, and generally reducing the density and species diversity of invertebrates. Bats, birds, and other wildlife that depend on insects for food are also impacted at these sites.

*Threatened or Endangered Species:*

Desert tortoise- The desert tortoise is a State and Federally Threatened species. The most recent information on the desert tortoise is found in the Desert Tortoise Recovery Plan Assessment Draft (Tracy, et al, 2004) and the Final West Mojave Plan (U. S. Bureau of Land Management, 2004). In general, tortoise densities across the West Mojave are down by as much as 90% but have rebounded in some protected locations. A section on the west side of the DTNA, for example, was surveyed recently (2004), and the density is over 60 tortoises per square mile. This part of the DTNA is well away from the heavy motorized vehicle use to the west, south, and east of the DTNA

Recent tortoise surveys in this allotment (2002 through 2004) by the desert monitoring team have established two areas of tortoise occupation (Keith et al, 2005). They found tortoise sign in the north part of the allotment (in the vicinity of Robbers Roost) and in the eastern part of the allotment near Red Rock State Park, encompassing about 4% of the area surveyed (31 of 751 plots). They estimated 50 tortoises for the Robbers Roost area and 108 for the Red Rock State Park area for a total 158. They estimated less than 170 for the entire study area. With low densities of tortoises outside the study area, the population is probably less than 200 for the allotment. It is likely that additional tortoises occur between these two areas. Tortoises have also been sighted in the western part of the allotment in the Kelso Valley area. With the low numbers of tortoises encountered, the actual density could be much lower or higher than these estimates. The numbers are presented here for comparing the different alternatives in the Environmental Impacts Section.

Tortoises have been observed in the washes (Axelson, 1998, Parker, 1998) extending up from the creosote vegetation community. Some of these such as Dove Spring and Butterbredt may function as east-west corridors for tortoises. No designated Critical Habitat is involved nor is the allotment in a DWMA. BLM biologists designated potential tortoise habitat as part of the route designation process for WEMO, and for this allotment an estimated 60- 70,000 acres (about 1/4 of the allotment) is potential habitat.

The West Mojave Plan EIS (US BLM, 2005) presents a discussion on the tortoise life history, and most of what follows is from that document. Desert tortoises will eat many species of plants. However, at any time, most of their diet often consists of a few species. Their diet will change over the course of their activity period, perhaps reflecting the changes in nutrient and water content of the vegetation.

Oftedahl (in US Bureau of Land Management, 2005) has shown that tortoises regulate potassium levels by selecting plants that are high in water content and protein (nitrogen), which he refers to as "High PEP plants." High levels of potassium are lethal to tortoises but require losing water to eliminate the potassium. Legumes such as *Astragalus* and *Lotus* are examples, although non- legume forbs such as *Malacothrix glabrata*, the desert dandelion are also valuable. Oftedahl is concerned that past grazing has depleted the seed bank of some of these species.

Feeding studies found that tortoises are healthier when fed native food as opposed to non-native vegetation. Studies have also found that tortoises prefer native vegetation to non- native. Late February through early May is the time in which tortoises must obtain sufficient succulent vegetation, especially forbs, to satisfy their caloric and nutritional needs and to complete re-hydration for the entire year.

A possible impact is the trampling of tortoises and burrows. Keith et al (2005) found 5 collapsed burrows out of 61 but didn't identify the causes, though weather and time are the most likely causes. They found no carcasses of tortoise crushed by cattle. There is no evidence of direct impacts by cattle to tortoises on the allotment. It is likely that indirect impacts by cattle over time have been more important.

The information obtained from the Rangeland Health Assessments is helpful in determining if the habitat meets the needs of the tortoise. An area that "Met" the standards for Rangeland Health would likely be adequate habitat for the desert tortoise. There were a few problem areas identified.

Tracy, et al (2004) cited excessive route proliferation as the key reason for the failure of tortoises to rebound elsewhere. Dispersed OHV use can have both direct (crushing tortoises and burrows) and indirect impacts (on soil and vegetation)( Boarman (2002). The allotment has two Open Areas, Jawbone Canyon and Dove Springs, with heavy OHV use on the existing route network. About 24 square miles within the open areas are impacted, including about 2 square miles around these areas (US BLM, 2004). Keith et al (2005) did not survey the Open Areas but did locate the one concentration area near Red Rock State Park and another in the vicinity of Robbers Roost, an area closed to vehicle traffic in the spring to protect nesting raptors. There is extensive riding off designated routes, creating a network of illegal routes, which are very difficult to restore.

The allotment is subject to many of the same impacts as the West Mojave Planning area, and the following discussion is derived from the EIS (BLM 2004). Urbanization is more limited with small communities in Kelso Valley/Creek associated with dumping, shooting, collecting

tortoises, attraction of predators, and OHV activity. The large gatherings of people in the recreation areas like Dove Spring Canyon may function as temporary urban developments.

Surface disturbing activities such as road maintenance can directly impact tortoises. Many of these promote the spread of fire, resulting in loss of shrub species important to tortoises. Mining is limited but does occur on the allotment, primarily in small, localized areas. Vehicle access to the mine sites and associated road blading can result in loss of both habitat and tortoises. A relatively new impact is the development of wind farms on the ridgelines. The impact to tortoises will be primarily from road construction followed by installation of wind turbines (requiring significant trucking of equipment and turbines). The new power lines will provide additional nesting sites for ravens and other avian predators.

A number of mortality factors are natural, primarily drought, disease, and predation. Coyotes (animals and eggs), free-roaming dogs (animals), kit foxes (eggs), and ravens (juveniles) are the primary predators. Biologists (BLM 2005) observed large groups of ravens in a heavily used camp site in Dove Springs Open Area. Ravens prey on small tortoises, but no studies indicate that predation by ravens is significantly harming the tortoise population (Boarman, 1992). Drought and disease beginning in the late 1980s are responsible for a loss of 90% of the tortoise population in the Western Mojave Desert. This event hit the DTNA, a fenced area, as well, though monitoring studies showed the density inside remained slightly higher than outside the fence.

2. Mohave ground squirrel- The species occurs on the allotment and may be affected by grazing. The West Mojave Plan EIS (US BLM, 2004) provides an excellent discussion of the status of the squirrel and activities that impact it.

The squirrel relies on annual plants for reproduction in the spring, but requires shrubs like spiny hopsage and winterfat when the annuals are absent. A grazing system that results in light utilization on the edible shrubs, and leaves an array of annuals with sufficient nutrient value to the squirrel is likely to have only minimum impacts on the population. The “not met” areas are problem areas for the squirrels and require an adjustment in grazing management. Other potential impacts are discussed in the EIS. Trampling of burrows is discussed, but this species, like the tortoise, is a burrowing animal and would have no trouble repairing a collapsed burrow.

Leitner (2006) found that a density of 300 plants (spiny hopsage and winterfat) per hectare is important for the squirrels. It is therefore important to monitor these two shrub species to ensure that the grazing strategy is compatible with a healthy Mohave ground squirrel population. *Atriplex* and *Kochia americana* are other species important to MGS, but less research has been done with them.

The species is impacted by many of the same factors affecting the tortoise: OHV activity, mining, road maintenance, and other surface disturbing activities. Direct impacts are difficult to document, but impacts to habitat are more obvious and probably more significance in the long run.

3. Southwestern willow flycatcher and least Bell's vireo-. The southwestern willow flycatcher (flycatcher) requires the "..presence of multi-layered dense, riparian habitat dominated by willows (*Salix spp*.) or other riparian tree and shrub species (Sogge et al. 1997)."

The allotment has over 5 miles of potential flycatcher habitat (EDAW, 2002) as per Table T2. Some of this habitat is marginal. These habitats are either fenced or proposed for fencing. Cattle- grazing is affecting the vegetation at Butterbredt Canyon, Dove Spring Canyon, and a segment of Kelso Creek (EDAW, 2002). Elsewhere on Kelso Creek, grazing is having only a slight impact. Willow flycatchers are using Kelso Creek, Butterbredt Canyon, and Axelson Spring (Wilamowski et al, 2002) but are not currently nesting there. It is unclear if birds are not nesting because the habitat is not in optimum condition due to flooding, OHV use, and grazing, or that cattle or some other activity is discouraging the birds from nesting.

Table U2- Habitat suitability for the southwestern willow flycatcher and lest Bell's vireo.

| Name of Riparian Area | Suitable of LBVI | Suitable for SWFL | Birds Observed 2002 | Length in miles suitable habitat | Cattle Use |
|---|---|---|---|---|---|
| Axelson Spring | Marginal | Yes | SWFL | 0.34 | Fenced |
| Burning Moscow Spring | No | No | None | 0 | No |
| Butterbredt Canyon | Yes | Yes | SWFL | 2 | Cattle south of fenced spring, moderate use (vegetation visibly affected). |
| Dove Spring Canyon | No (Too small and open) | No | None | 0 | Heavily impacted by cattle, no under-story or ground cover. (Pasture Fence) |
| Kelso Creek (Rocky Point) | Yes | Yes | SWFL | 0.5 | Fenced |
| Woolstaff Creek | Marginal | Marginal | None | 0.2 marginal | Fenced |
| Kelso Creek (Upstream) | Yes | Yes | | 0.5 | Slight cattle use |
| Kelso Creek (West) | Yes | Yes | None | 1 | Very infrequent. |
| Kelso Creek (Mid, near Audubon Prpty) | Yes, but low quality | Yes | SWFL | 0.8 | Some area damaged by cattle grazing. (Partial Fencing) |
| Nudist Spring | No | Yes | None | 0.1 | Fenced |
| Sage Canyon (USFS) | Marginal | No | None | 0 | Heavy cattle grazing south and north of stream in uplands. US Forest Service |
| Total | | | | 5.44 | |

## 2. Environmental Consequences

a. Impacts of Proposed Action

*Special Status Species (Upland Species)*

The actions called for in the Proposed Action will assist in the recovery of degraded habitat and help maintain healthy habitat. Grazing every other year will help the allotment meet rangeland health standards, reducing the indirect impacts on wildlife.

Under this alternative, the yellow-eared pocket mouse would continue to do well within the allotment where rangeland health standards have been met. Bat foraging habitat would continue to be healthy in the "met" areas. The two "not met" upland areas would probably not improve due to OHV activity and other factors damaging habitat.

The additional rest should gradually bring the areas in to a "met" condition. This should allow the vegetative structure to improve in those areas not being met which will benefit wildlife. The habitat should be more productive, providing food for the burrowing owl, prairie falcon, as well as upland game birds.

*Special Status Species (riparian species)*
The suspension of grazing during the critical spring season of growth (3/1-5/31), the establishment of utilization studies on saltgrass, sedge, rush, and willow, and the riparian projects will enhance riparian habitat and facilitate seasonal management of cattle in these areas. Nine miles of riparian habitat would receive increased management of OHV and livestock grazing and likely respond with increased cover, structural diversity, and increased vigor. This is an increase of five to six miles over the current management alternative, a significant increase. The proposed action provides better monitoring and protection of riparian areas where bats forage for insects. The sites "not meeting" may improve, and some may "meet" the standards within the ten years that the permit is good for. Lengths and acreages of riparian areas are listed in the tables in the Wetland/riparian section and the Appendix 4.

The exclosures would promote increased riparian cover, leading to an increase in numbers of birds, salamanders, springsnails, and other riparian species as habitats recover. The riparian vegetative community would be less altered under this alternative, and there would be fewer direct impacts on nesting birds by cattle. Invertebrates would increase with a decrease of the "mud bog" areas. The increase in aquatic insects will provide an increased food supply for many nesting and migrating bird species. The additional rest in the Sheep Troughs Pasture will allow new seedlings and saplings to reach a height at which they may survive. Cattle may still impact the under-story, but disturbed acreage would decrease.

With less grazing pressure on the riparian areas, nesting bird densities would increase due to a reduction in both indirect and direct impacts. The problem areas should be reduced over a 5- 10 year period. The analysis from the Wetland/riparian section of this EA concludes that riparian habitat will improve with protection and changes in management. In 2001 66% of 4.66 miles of riparian habitat was rated from "good" (3.0) to excellent (4.). This distance could increase to 7 miles and 9 or 10 miles with fencing.

*Threatened and Endangered Species*.

Impacts of grazing on the desert tortoise and the Mohave ground squirrel may be significantly reduced under the Proposed Action. Maintaining utilization levels of perennial plants such as grasses and shrubs would increase cover, benefiting hatchling and juvenile tortoises by

potentially reducing the impacts from predators. If the proposed action enhances tortoise habitat, the areas between the two higher population density areas could support tortoise densities comparable to these two areas. The Recovery Plan (U.S. Fish and Wildlife Service, 1994) states that a desert tortoise population, under reasonably favorable conditions (healthy rangeland) would grow at an average rate of 1% per year. Over the 10 year period of this lease, we would expect the tortoise population to increase from the estimated 200 animals to about 220 animals.

The following table is a comparison of tortoise population estimates based on the Hectare Plot study (Keith, 2005)

| Alternative | Current Estimated Population | 10 Year Projected Population | % annual growth | % Change |
|---|---|---|---|---|
| Proposed Action | 200 | 220 | 1% | +10 |
| No Action | 200 | 210 | .05% | + 5 |
| No Grazing | 200 | 244 | 2% | +22 |

The same potential impacts from grazing exist under the Proposed Action as under the Current Management. The degree and nature of impacts from cattle grazing are dependent upon several factors including the grazing history, seasons of use, and stocking rates. Potential impacts of grazing on the desert tortoise include:

1) Reduced shrub cover (needed for thermal protection and hiding cover) and reducing plant biomass (food);
2) Altered species composition since livestock graze selectively on vegetation with high nutritional content;
3) Proliferation of non-native grasses (less nutritional value) and reduction of perennial grasses;
4) Trampling of tortoises and shelter sites;
5) Competition for forage and trampling of key forage items for tortoises.
6) Attraction of predators to the area (due to reduced cover and presence of cow dung), increasing the potential for predation on small tortoises.

The measures incorporated into the Proposed Action have reduced these impacts to less than significant.

Adverse impacts to soil and vegetation, important to tortoises, are reduced by the measures in the Proposed Action. Disturbance to the biological soil crust would continue, but soil crusts may recover if forage utilization levels are held to those proposed. Impacts to soil and vegetation will still occur near watering areas. However, with the proposed riparian exclosures, impacts will be less than under Current Management.

Impacts to the Mohave ground squirrel would be indirect, in the form of grazing annual plants and shrubs that are important to MGS. With cattle utilization reduced for those shrub species preferred by the Mohave ground squirrel, impacts would be significantly reduced. The problem

areas ("not met") would be reduced under this alternative and habitat should improve over the 60- 70,000 acres of potential MGS habitat.

Impacts to the southwestern willow flycatcher (SWFL) and the least Bell's vireo (LBVI) are primarily indirect. The number of problem areas would be reduced. Grazing on seedlings/saplings would decline, allowing these to form multiple layers for nesting birds. Birds would possibly nest in the 5.44 miles that were rated as potential habitat and marginal habitat. New fences and providing water away from riparian areas should benefit wildlife. Impacts to these species would therefore be kept to an insignificant level.

Where known tortoise populations exist, such as the Robbers Roost area, grazing will be closely monitored to insure that rangeland health standards are met. The mitigation developed for the current management alternative has been incorporated into the Proposed Action alternative and is not listed here. This mitigation includes development of an inspection/maintenance protocol to deal with flood events and human activities. BLM will monitor Mohave ground squirrel habitat using recently developed protocols.

The Biological Opinion for the southwestern willow flycatcher and least Bell's vireo states that BLM should complete rangeland health determinations and "assess the potential for adverse effects to these birds, and where appropriate, initiate consultation with the Service (Fish and Wildlife Service, 2002)." Impacts will be reduced but would still occur, leading to Consultation with USFWS at some level.

Since floods, cattle, and human activities can break fences, impacts from livestock and OHV activity to riparian habitat would continue at some level. The problem areas in upland habitats may continue or take a very long time to "meet" standards. Species associated with these sites may remain in low densities until the habitats recover. Recovery will be enhanced by exclosure fences, drift fences, range improvements that distribute cattle, and resting of pastures. These are all part of the proposed action and should substantially reduce residual impacts.

b. Impacts of No Action

*Special Status Species (Upland Species)*

Under this alternative, the yellow-eared pocket mouse population would thrive in areas that "met" rangeland health standards, while being at risk in the areas that did not meet standards (two sites). The upland habitat in the Sheep Troughs pasture would receive high levels of grazing pressure, requiring close monitoring to keep utilization levels within standards.

Bat habitat would be adversely affected since riparian areas that produce insects on which bats forage would not be protected. The habitat of upland game birds, burrowing owls, and tortoises would continue being degraded in the few areas that were not meeting rangeland health standards. Seed-eating birds would be impacted in those areas not meeting standards. Wintering flocks of sparrows would be particularly affected. Under the continuing management alternative, the quality of the habitat would probably not improve. The vertical vegetation structure preferred by many nesting bird species would continue to be degraded at sites that are not meeting health standards.

Prairie falcons and other raptors would be indirectly affected by degradation of sites not meeting rangeland health standards. Reptile diversity would be reduced in the "not met" areas.

*Special Status Species (riparian species)*

Under current grazing management, bird species would be adversely affected in about 3 miles of riparian habitat. Riparian areas of Sheep Troughs Pasture would continue to be degraded by cattle grazing. Hoffman Canyon and Cottonwood Canyon off of Jawbone Canyon would be grazed, and riparian vegetation could be continually degraded. Adverse impacts to birds, salamanders, springsnails, and other riparian species would continue under this alternative.

The sites not meeting rangeland health standards in Hoffman and Cottonwood would probably mot meet standards throughout the ten years of the permit. The "mud bogs" of Hoffman Canyon will continue to be unsuitable habitat for sensitive invertebrate species. The ¼ mile of Hoffman and the slightly shorter stretch in Cottonwood may not recover under this alternative.

*Threatened and Endangered Species*

There could be direct and indirect impacts to tortoises in the area around Robbers Roost and the area adjacent to Red Rock State Park, potentially affecting as many as 150 tortoises. The areas between these two could also be impacted, affecting an additional 50, for a total of about 200 tortoises. Under the "No Action" alternative, the population growth rate would be less than the 1%, as listed in the Recovery Plan for a population under "normal" conditions. The tortoise population may recover at a rate of only 0.5%. At this rate the population could increase to 210 tortoises which is less than under the Proposed Action. Indirect impacts could affect 60,000 to 70,000 acres of potential tortoise habitat. The Sheep Troughs Pasture has a tortoise population that could be adversely impacted by cattle. Tortoise density is low, reducing the probability of cattle stepping on tortoises or their burrows. Keith et al (2005) found "Tortoise sign was significantly lower on plots with high livestock scat counts."

The degree and nature of impacts from cattle grazing are dependent upon several factors, including the grazing history, seasons of use, and stocking rates. Potential impacts of grazing on the desert tortoise include:

1) Reduced shrub cover (needed for thermal protection and hiding cover) and reducing plant biomass (food);
2) Altered species composition since livestock graze selectively on vegetation with high nutritional content;
3) Proliferation of non-native grasses (less nutritional value) and reduction of perennial grasses;
4) Trampling of tortoises and shelter sites;
5) Competition for forage and trampling of key forage items for tortoises.
6) Attraction of predators to the area (due to reduced cover and presence of cow dung), increasing the potential for predation on small tortoises.

Under current management several decades will be required for tortoise habitat to recover from overgrazing. Tortoise populations respond to improved habitat conditions very slowly because of their low reproductive and recruitment potential.

Impacts to soil and vegetation, important to tortoises, are reduced by the measures incorporated from previous Biological Opinions. Grazing would continue to disturb the biological soil crust, which may recover over time as long as utilization levels are held to those proposed. Impacts to soil and vegetation will be greatest around watering areas.

Impacts to the Mohave ground squirrel would be indirect, in the form of grazing annual plants and shrubs that are important to MGS. With utilization levels held low for those shrub species preferred by the Mohave ground squirrel, the impacts would be significantly reduced.

Impacts to the southwestern willow flycatcher (SWFL) and the least Bell's vireo (LBVI) are primarily indirect. The areas not meeting rangeland health standards in Hoffman and Cottonwood Canyons and other sites may not recover.

The Biological Opinion for the southwestern willow flycatcher and least Bell's vireo states that BLM should complete the rangeland health determinations and "assess the potential for adverse effects to these birds, and where appropriate, initiate consultation with the Service (Fish and Wildlife Service, 2002)."

The following actions would reduce the impacts to a level of insignificance:

1. Fencing of the remaining 3- 5 miles of unfenced riparian areas should be considered where there are "unmet" problem areas. These projects (and others) would be regularly inspected and maintained. BLM would coordinate with the CDFG on fence specifications.

2. Waters should be made functional and maintained away from riparian areas.

3. The riparian areas for all the canyons should continue to be monitored closely and problem areas identified. Cattle should be removed when utilization levels are reached.

4. Tamarisk continues to be a problem in a few of the canyons and should be eliminated.

5. BLM should plant native riparian species such as willows and cottonwoods, if these species have been impacted by grazing. Data from the rangeland health assessments and other surveys could be used to identify areas for planting.

6. As per the Biological Opinion, BLM should evaluate the implementation of a cowbird control program.

7. BLM should closely monitor the Robber's Roost area where a tortoise population exists. Production of spring annuals should be monitored to alleviate competition between tortoises and cattle. Tortoise populations should also be monitored as per the 2004 hectare plot method. This area is high quality desert tortoise habitat because of increased soil moisture.

The 5-6 miles of unfenced riparian habitat could continue to be impacted by grazing, particularly if monitoring of cattle utilization is not conducted frequently. It is critical that utilization be monitored during summer. If regular inspection and maintenance of the projects are not performed, cattle could get into the exclosures and will degrade riparian habitat. Willows and other riparian vegetation composing the under-story may be eaten and trampled, leaving stretches of low quality habitat. An inspection/maintenance schedule should be developed since floods, cattle, and human activities can break fences. If riparian areas are protected by exclosures, cattle may move to unfenced portions of the canyon. The problem areas may simply move to other locations. The problem areas in upland habitats may continue or take a very long time to recover. Species associated with these sites may remain in low densities until the sites recover.

Since cattle have been grazing in this allotment for many years, any wildlife species likely to be lost have already disappeared. These would be primarily aquatic species such springsnails, salamanders, possibly fish species, and frogs. If the proposed mitigation measures are implemented, riparian habitats would be impacted to a lesser degree and would be likely to recover. Recover of upland habitat would require significantly more time.

c. Impacts of No Grazing

*Special Status Species (Upland Species)*

With no grazing, some of the "not met" areas would recover. The yellow-eared pocket mouse should do better under the No Grazing alternative. Bat and bird foraging habitat should improve as the number of "not met" sites decrease. Burrowing owl habitat outside of the OHV-impacted areas should improve. Prairie falcons and other raptors would benefit from increased productivity. Reptile diversity would increase as habitats recover and meet rangeland health standards.

*Special Status Species (riparian species)*

Bird species would benefit under this alternative. The larger riparian areas should see a reduction in the "not met" areas as long as OHV activity can be managed. Birds, salamanders, springsnails and other species associated with riparian areas should expand into recovered habitats. Cattle would no longer impact nesting birds, but human impacts would continue. The under-story in those areas "not meeting" would recover. In some canyons nesting bird densities could increase up to a third. Special status birds such as the yellow warbler may nest in Butterbredt Canyon in greater numbers.

*Threatened and Endangered Species*

No grazing impacts would occur on about 60- 70,000 acres of potential tortoise habitat. Under the Proposed Action, we would expect the tortoise population to increase from the estimated 200 animals to about 220 animals over the 10 year period of this lease. Under the No Grazing Alternative, the increase could be twice that of the Proposed Action (1%). Therefore, the tortoise population would experience a 2% increase annually for a 10 year period, resulting in a population of about 244. This number is an increase of about 24 tortoises more than the 220

estimated for the Proposed Action. The grazing exclusion zone prevents cattle from grazing during the season when conflicts with tortoises would be most likely to occur. Under the No Action alternative no disturbance to the biological soil crust from grazing would occur (OHV activity would continue in certain areas). There would be no grazing impacts to the Mohave ground squirrel. The two "not met" problem areas would recover. However, habitats deteriorated by OHV activity would continue to be degraded.

Any impacts from grazing to the southwestern willow flycatcher (SWFL) and the least Bell's vireo (LBVI) would cease. The 5 problem areas would recover. The willow vegetation and under-story would probably develop, creating more potential nesting habitat. Over 5 miles of riparian habitat could provide habitat for nesting flycatchers. No consultation with the Service would be needed.

d. Consultation

Rocky Thompson, California Department of Fish and Game, Region 5
Judy Hohman, U. S. Fish and Wildlife Service, Ventura, CA

## V. VEGETATION

### 1. Affected Environment

The Rudnick Allotment is located at the western edge of the Desert Floristic Province as described in the *Jepson Manual, Higher Plants of California*. It is adjacent to the California Floristic Province and the Great Basin Floristic Province. This has resulted in components from all three of these provinces occurring in the area. The eastern boundary of the allotment is on the bottom of the Indian Wells Valley. The western boundary of the allotment includes the Sierra Nevada crest, and portions of the Kern River drainage . The valley bottom lies at an elevation of 2400 feet while much of the crest lies above 5,500 feet elevation. The allotment has a number of structurally different vegetation areas. Most of the allotment supports what Sawyer and Keeler-Wolf in *A Manual of California Vegetation* describe as vegetation series (now called alliances) dominated by shrubs. These shrub series typically support an herbaceous layer that may include less than a dozen species of perennial grasses and forbs. In addition the herbaceous layer usually includes an extremely diverse number of annual forbs and up to five species of annual grasses. Portions of the allotment along the western boundary support a California annual grassland type series where most of the vegetation consists of introduced annual grasses and forbs. The higher elevation portions of the allotment support several forest type vegetation series. The forest communities typically have three layers. However, some of the forest type series typically has a dense canopy overhead which greatly diminishes the density of the shrub and herbaceous layers in contrast to the adjacent shrub and grassland communities. The forest (tree) vegetation series includes conifer forests (Jeffery pine), pinyon-juniper woodlands and deciduous oak woodlands. The riparian vegetation series are the most complex in that they can have multiple tree layers in addition to the shrub layer and the herbaceous layer. In addition the riparian zones with free water have an additional layer below the water surface

The vegetation occurs in elevation zones with forest types at the highest elevation progressing through grasslands, high uplands and medium uplands to the low upland sites along the low elevation portions of the allotment. Nearly all of the major canyons contain perennial streams. Over 30 different vegetation series as described in A Manual of California Vegetation (John O. Sawyer and Todd Keeler-Wolf) occur in the Rudnick Common Allotment. Topographic and other restrictions preclude livestock use from some of the forest type vegetation series in the allotment.

The Rudnick Common Allotment has a great diversity of vegetation series which is reflective of the great physical diversity in the area. Forty-four health assessments were conducted on upland sites where vegetation attributes were sampled in the Rudnick Common Allotment. Over sixty species of perennial plants were encountered in the upland transects. Several of the vegetation series identified in the allotment are considered transitional. These series include or are dominated by short lived species. According to Sawyer and Keeler-Wolf, these series can be an indicator of past and/or current disturbances. The disturbances can be either man caused (like grazing, OHV use, camping or maintenance on rights-of-ways and roads) or natural (like fire or flood events). Examples of all of these disturbances were observed in the Rudnick Common Allotment. Among the short lived species characteristic of these series is California buckwheat (*Eriogonum fasciculatum*) and cheese bush (*Hymenoclea salsola*). The creosote bush (*Larrea tridentata*) and Joshua trees (*Yucca brevifolia*) are among the long lived species occurring in the area.

The creosote bush series is one of the most common vegetation series in the allotment. Common perennial species found in the Creosote bush Series include Creosote bush, Burro-bush or Bursage ( *Ambrosia dumosa*), Winterfat (*Ceratoides lanata*), Spiny Hop-Sage (*Grayia spinosa*),Desert needlegrass, Indian ricegrass *(Achnatherum (Oryzopsis) hymenoides)* and Varied bluegrass (*Poa secunda*). The Joshua tree series is also found in the allotment. This series is similar to the Creosote Series with the inclusion of emergent Joshua trees. This series typically occurs at the upper edge of the Creosote bush Series where there is more moisture. The Joshua tree woodland was found to be the most productive vegetation series in the CDCA Plan forage inventories.

A common thread to all of the vegetation series is the occurrence of a diverse groundcover of annual plants. The annual (ephemeral) vegetation is extremely variable in biomass production, ground cover and species composition year to year and site to site. Biomass production is zero in poor years, but can exceed 4000 pounds per acre at the better sites in a good year. More common biomass productions will range between 500 and 1000 pounds per acre. Michael Bowers (1987) conducted research on this topic and concluded that: “Annual composition was not related to that of the previous year.” In addition he stated: “These results suggest that compositional dynamics of annual plants in the Mojave Desert are keyed to processes that affect germination.” Over 500 species of annual plants occur in the area. Of these, only a few dozen species are of sufficient numbers and production to be important to livestock. These include storks bill or filaree (*Erodium cicutarium*), coreopsis (*Coreopsis bigelovii*), fiddleneck (*Amsinkia spp.*), phacelia (*Phacelia fremontii and tanacetifolia*), yellow comet (*Mentzelia spp.*), goldfields (*Lasthenia (chrysostoma) californica*), desert dandelion ( *Malacothrix californica*), bottle washer (*Camissonia spp*.), Fremont pincushion (*Chaenactis fremontii*), gillia (*Gillia spp*.), for-get-me-not (*Cryptantha spp*.), desert trumpet, (*Eriogonum inflatum*),

mustard (*Brassica spp*.), little golden poppy (*Eschscholtzia minutiflora*), California poppy (*Eschscholtzia californica*), Arabian grass (*Schismus aribicus*), cheat grass (*Bromus tectorum*) and red brome (*Bromus (rubens) madritensis Ssp. rubens*) The annual grasses (mostly introduced) will germinate under much cooler conditions than the broad-leafed forbs. Along the western edge of the allotment in Kelso Valley and along Kelso Creek, the annual grasses dominate the vegetation in what is called a California annual grassland vegetation series. Many of the forbs are showy wildflowers. A number of sites in the mountains provide sheltered sites which provide the warm moist conditions necessary for wildflower germination

Most plants in the allotment are growing-renewable resources which can tolerate some level of use on a sustained basis. Annual (ephemeral) plant species are the most tolerant of grazing. They will continue to thrive as long as they have been allowed to set seed and the site has not been unduly modified. Many of the annuals can be completely consumed once the seed has dropped although California annual grassland rangelands are generally managed by maintaining a minimum mulch layer. The perennial plants have different needs which makes them more susceptible to grazing. Much of the perennial plant's production is directed at maintenance of energy reserves which are necessary to sustain future years' initial growth and flowering. Of secondary importance is the production of seeds. This means that perennial plants need to maintain an adequate level of photosynthetic processes through the year until they go dormant. Grazing removes photosynthetic material and stored energy from perennial plants. The amount of material that can be removed from a plant depends upon the species, the time of year, overall health of the plant and growing conditions (soil moisture and nutrients). This amount of a perennial plant that can be safely removed on a sustained basis is referred to as the proper use factor (PUF). It is expresses as a percent of the current year's growth that can be removed on a sustained basis. Each species has its own PUF. These can run from 50% for some grass species to 10% or less for some shrub species. These PUFs were developed for more average years and should be considered excessive in draught years. The CDCA Plan and the Rudnick Common Allotment Management Plan (AMP) contain recommended PUFs and guidance that exceedances of the PUFs would lead to moving or removing of livestock.

During the health assessments it was noted that there were widespread adverse impacts to the herbaceous layer close to livestock concentration areas. One of the upland sites not meeting standards noted a lack of perennial grasses.

The California Desert Conservation Area Plan and Environmental Impact Statement addressed cattle grazing in the Rudnick Common Allotment. Among the grazing issues addressed was the estimated forage production, allocations of forage, and limits on grazing use (proper use factors). The CDCA Plan estimated the perennial forage production to be approximately 9193 AUMs. Over 25% of the forage was reserve by the Plan for wildlife, steep slope exclusions and condition improvement. As a result of the CDCA Plan, the perennial forage allocation was reduced from 26,210 AUMs to 6,896 AUMs with provisions for ephemeral allocations.

Short and long term monitoring along with Rangeland Health assessments, compliance checks and various documents have noted a number of grazing impacts in the Rudnick Common Allotment. The CDCA Plan and the Rudnick Common Allotment AMP both discuss range conditions in the allotment. The CDCA plan classified the allotment as fair condition.

According to the CDCA Plan, areas in fair condition would exhibit many of the following characteristics:

- "Decreasers show low vigor with remnant populations occurring in sheltered areas.
- Invaders are common, increasers are expanding.
- Accelerated erosion evident but not common.
- Cover tending to be reduced.
- Production is 25-50 percent of potential."

The CDCA Plan explained the above terms as follows:

> "Certain forage plants are useful as indicators of condition by their characteristic response to grazing pressure. "Decreasers" reduce in composition under heavy grazing pressure. "Increasers" multiply in composition under heavy grazing pressure. When conditions appreciably deteriorate, the less-desirable plants or "invader species" become more abundant." These terms refer to plants that could be either native or non-native species.

The condition rating system used at the time of the CDCA Plan is no longer used, but, a number of observations that led to the classification are still valid. The fair rating was likely the result of over 130 years of grazing with no regulation prior to the Taylor Grazing Act (1934) and over-allocations prior to the CDCA Plan (1980). In the 60 years prior to 1934, large herds of both cattle and sheep used the area. Some historical records indicate that over 20,000 head of cattle and nearly 1,000,000 head of sheep used the area during the early years (Powers 1987 and Georgetta 1972).

The rangeland health assessments conducted on the Rudnick Common Allotment also noted some of the same observations as those from the CDCA Plan. Although none of the upland sites were impacted enough to not meet range health standards, many of the notes indicated lower vigor and cover on the key species. Both the CDCA Plan and the AMP have management objectives to improve the cover and vigor of the key species.

Poor distribution of cattle in the Allotment has been noted as a key issue. The observations of cattle movements and vegetation indicate that cattle tend to concentrate near water. Utilization studies and Rangeland Health assessments both noted this problem. The Health assessments noted a lack of key species, poor reproduction and trampled vegetation at riparian sites. As a result, of the twelve riparian sites assessed, five were determined to not meet Rangeland Health Standards due to cattle use. A number of factors contribute to the problems. These included a natural preference of the cattle for grazing the key species, grazing the same areas every year during the spring growing season, heavier stocking during the spring growing season, the tendency of the cattle to concentrate and stay near water during the warm season, a total dependency of the cattle to water on the stream due to nonfunctional water developments and season long grazing at the same site with little herding.

Key forage species were established in the AMP for the Rudnick Common Allotment. They include indian ricegrass, desert needlegrass , varied bluegrass, squirreltail (*Elymus elymiodes*

*ssp. elymiodes*), fourwing saltbrush (*Atriplex canescens*), winterfat (*Krascheninnikovia(Eurotia ) lanata*) and spiny hop-sage ( *Grayia spinosa*).

**2. Environmental Consequences**

a. Impacts of Proposed Action

The proposed action's change in season of use or riparian exclosures in pastures with important riparian areas is important in that it addresses fundamental problems with the existing situation. These problems include cattle concentrating and loitering around natural waters and continuous repeated grazing during the critical growing season. The dependence of the cattle to water on the riparian zone would be continuing at a lower level with just the season of use restriction. Repairing existing water and developing new waters away from natural waters would reduce the dependency to water on riparian areas. Fencing would exclude cattle from the riparian areas allowing them to recover. The improved distribution of cattle away from watering areas and seasonal rest for both riparian and upland sites would better distribute the use of forage in the allotment. The upland portions of the allotment constitute a majority of the allotment and contain a majority of the forage on the allotment. It is expected that the use on the upland areas would remain within CDCA Plan guidelines and the overused sites would start recovery under this alternative. The average forage consumption on the allotment would be 42 pounds per acre. The vegetation removed by grazing is renewable on a sustained basis at moderate grazing levels. Heavy use sites would start recovery when the impacting uses are modified or removed. Recovered sites may or may not ever resemble previous vegetation composition

b. Impacts of No Action

The continuance of the current management would not address current resource issues as noted in the affected environment. There would be a continuance of the impact to riparian areas and uneven utilization of vegetation with key species continuing to be adversely impacted. Meeting the rangeland health standards would continue to be a problem.

*Recommended Mitigation for No-Action Alternative:*

These recommended mitigation measures are also derived from the rangeland health determinations for the Rudnick Common Allotment and have been incorporated into the Proposed Action.

- Modify the grazing management in pastures with important riparian areas or fence out riparian areas to achieve the following: in areas during the warm /hot season to reduce concentration on the riparian areas.

- Avoid grazing in riparian areas during the warm /hot season to reduce concentration on the riparian areas.

- Reduce grazing pressure during the spring growing season to allow recovery of the key species and protective plant cover in the riparian areas.

- Achieve rangeland health standards.

Develop more specific triggers for riparian zone monitoring along with specific immediate actions necessary if over use is observed, including the following:

- Add all riparian areas, including the adjacent benches, as key areas for monitoring in the Rudnick Common Allotment AMP.

- Add salt grass, sedge, rushes and willows to the key species list along with their proper use factors to the Rudnick Common Allotment AMP. The PUFs would be salt grass (30%), sedge (30%), rushes (30%) and willow (10%).

`Implement the AMP especially the following items:

- Repair water developments to encourage cattle to concentrate away from the riparian areas onto previously impacted sites.

- Repair existing pasture and riparian area fences.

- Develop new water sites away from natural water.

- Implement the rotational grazing system.

- Encourage better movement of livestock by the rancher.

c. Impacts of No Grazing

No annual or perennial vegetation would be trampled or removed by cattle. There would not be any expected large scale changes in vegetation composition on an overall basis. Cover and vigor of key species would increase. Standing Biomass levels would increase. Changes would occur at high use site especially those sites that have not met Rangeland Health Standards. These sites would become functional and physically stable and later vegetation recovery would occur. Full recovery may not include matching the exact original vegetation.

*Recommended Mitigation for No Grazing Alternative:*

Develop and implement rehabilitation and protection for the developed sites to aid recovery.

**CUMULATIVE IMPACTS**

There are a number of resource disturbing activities in the western Mojave desert. Many of these are documented in the West Mojave Plan (USDI BLM 2005a) and are incorporated by reference. These include paved and unpaved roads, OHV activities, mining, rights-of-ways, residential and commercial development, military activities and livestock grazing. The roads, mining, rights-of-ways and development activities tend to be permanent dedication of sites and constitute a total loss of the site productivity. OHV activities can be short duration, but are generally repeated throughout the year. Military activities currently occur at major ranges in

the region including the Navy's China Lake and Mojave B ranges, the Air Force Edwards AFB and the army at Fort Irwin.

Historically most of the area was used by the military during WW2 and additional bases existed at Mojave and Cuddeback. Mining in the area dates back to the late 1800s and continues to today. Impacts to resources are the obvious mine spoils and buildings, but also include damage to vegetation resources as herds of livestock were driven to the mines and held for food and the harvesting of "sage and greasewood" to fuel the boilers for the mills (Starry 1974). These allotments have seen over 130 years of grazing. In the 60 years prior to the Taylor Grazing Act (1934), large herds of both cattle and sheep used the area with no regulation. Some historical records indicate that over 20,000 head of cattle and nearly 1,000,000 head of sheep (Powers 1987 and Georgetta 1972) used the area during the early years prior to the grazing service.

| Identification of Possible conflicts for cumulative impact analysis | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Land use -→ Resource | Proposed Action | No Action | No Grazing | Paved Roads | Unpaved Roads | OHV | Mining | Rights of Ways | Military | Development |
| Air Quality | Minimal Impact less than .01% of regional emissions no long term impact | Minimal Impact less than .01% of regional emissions no long term impact | No impact | 6.7% of regional PM10 emissions | 51% of Regional PM 10 emissions | 13% of regional emissions in 1990 | 9% of regional emissions | Unknown* | Unknown* | 10% of regional PM10 emissions |
| Biological Soil Crusts | Minimal impact resource renewable at first rain. | Minimal impact resource renewable at first rain | No impact | Paved roads are a total dedication of resources | unpaved roads are a total dedication of resources and amount to approximately 1000 miles on BLM in allotments (1200acres) | separate from unpaved road travel use limited to Spangler Hills, Dove Springs and Jawbone Canyon Open Areas (69,000 acres) | Casual use in El Paso Mts with mining at Randsburg/ Red Mt area also some Sand and Gravel represent partial to total loss of habitat | major corridors through Cantil, Monolith, Boron, Bissel, Spangler, Rudnick and Hansen allotments total dedication of sites | | Total dedication of sites to use in towns, residential, and development in area with population of over 200000 |
| Invasive, Non-Native Species | Intense use sites favior some non-native invasive species Historic very heavy use Current use around 25% of historic use | Intense use sites favior some non-native invasive species Historic very heavy use Current use around 25% of historic use | Historic use sites will recover to resemble surrounding specie mix and densities Historic very heavy use Current use around 25% of historic use | Roadsides and associated maintenance are a major vector for introduction of new species | Roadsides and associated maintenance are a major vector for introduction of new species | Intense use sites favor some non-native invasive species | Intense use sites favor some non-native invasive species Construction equipment is a major vector for introduction and spread of new species | Intense use sites favor some non-native invasive species Construction equipment is a major vector for introduction and spread of new species | | Intense use sites favor some non-native invasive species Construction equipment is a major vector for introduction and spread of new species landscaping can introduce new species. |
| Soils | small surface disturbance | small surface disturbance | none | Paved roads are a total | unpaved roads are a total | separate from unpaved road | Casual use in El Paso Mts | major corridors through Cantil, | | Total dedication of |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | especially in concentration areas | especially in concentration areas | | dedication of resources | dedication of resources and amount to approximately 1000 miles on BLM in allotments (1200acres) | travel use limited to Spangler Hills, Dove Springs and Jawbone Canyon Open Areas (69,000 acres) | with mining at Randsburg/ Red Mt area also some Sand and Gravel represent partial to total loss of habitat | Monolith, Boron, Bissel, Spangler, Rudnick and Hansen allotments total dedication of sites | | sites to use in towns, residential, and development in area with population of over 200000 |
| Special Status Plants Species | some potential | Some porential | No potenial | none any new construction would require Environmental Clearances | many occurances are along unpaved roads where they have less competition and more moisture | many occurances are along unpaved roads where they have less competition and more moisture | No observed Impacts from current mining | No observed Impacts from current ROWs | | None around current population centers |
| Water Quality | None | None | None | some from runoff | some from runoff and surface erosin also channeling water | | Possible from toxics and erosion | Problems from poor drainage at a number of sites | problems with past hazmat dumping | General problem from storm water discharge and waste water |
| Vegetation | Moderate to renewable vegetation recovery in one growing season<br><br>Historic very heavy use Current use around 25% of historic use | Moderate to renewable vegetation recovery in one growing season<br><br>Historic very heavy use Current use around 25% of historic use | none<br><br>Historic very heavy use Current use around 25% of historic use | total dedication of sites | total dedication of sites | Series of short duration uses that especially physically impact smaller plants repeatedly and can remove all vegetation at camping and staging areas | can result in long term total dedication of site | can result in long term total dedication of site | | can result in long term total dedication of site |

*Air Quality*

The cumulative effect area for air resources for the existing situation is the Indian Wells Valley PM10 planning areas and the East Kern County Ozone attainment area. The measure of cumulative emissions is reflected in concentrations measured at a series of monitoring stations located in each of the air quality planning areas. There have been no recorded concentrations above the NAAQS in the past 10 years for PM10. There are a number of sources of emissions in the Mojave Desert Air Basin and in the area of the Rudnick Common Allotment. These major sources include stationary sources such as industrial processes, Area sources such as construction and demolition, mining, and travel on unpaved roads and Mobile sources such as vehicles (ARB 2006b). Additional PM10 emissions are occurring as a result of OHV use in the general area plus two OHV open areas. Utility Right-of-way maintenance on the two Los Angeles Aqueducts and a power line corridor which run the length of the allotment are also sources of PM10 emissions. Total estimated PM10 emissions in the Mojave Desert Air Basin from all sources are 81,979 tons per year. The total emissions for the eastern Kern County area is 10,329.5 tons (12% of the PM10 emissions in the Mojave Desert Air Basin) (ARB 2006a&b). All farming activities in eastern Kern County account for around 23% of the total PM10 emissions in the area. Cattle grazing on the Rudnick Common allotment are only a small part of that category. Other fugitive dusts sources and unpaved road dust account for nearly 40% of the PM10 emissions. The expected emission levels are within the levels in the attainment demonstrations in the SIPs and the cumulative NAAQS 24 hour and one year PM2.5 and PM10 emission standards and the one and eight hour ozone emission standards and are not likely to result in or contribute to exceedences of the National Ambient Air Quality Standards.

*Areas of Critical Environmental concerns (ACECs)*

The ACEC has a high level of recreational use, primarily OHV use, but also day use, picnicking, camping, hiking, running, horseback riding, birdwatching, and others. In addition, flooding has historically impacted the canyons. The LADWP aqueduct cuts through the ACEC and has significant activity associated with it. Portions of the ACEC are designated Wilderness. Proposed Wind Energy developments would contribute to impacts.

Recent archaeological inventory within the Jawbone-Butterbredt ACEC (Bevill and Nilsson 2004) indicates that many archaeological sites and areas identified as having Native American values attached are being affected by multiple activities. Grazing, OHV use, hunting, other recreation use, and site vandalism and illegal artifact collection are causing significant adverse effects to many resources within the ACEC. Many of these activities have gone on for decades; grazing has occurred in the area for a hundred years or more. Consequently, the long-term cumulative impact to the cultural resource base within the ACEC has been severe.

*Biological Soil Crusts:*

There are a number of soil disturbing activities in the western Mojave desert. These include paved and unpaved roads, OHV activities, rights-of-ways, residential and commercial development and livestock grazing. The roads, rights-of-ways and development activities tend to be permanent dedication of sites and constitute a total loss of the crustal community. Grazing activities are short term and allow for yearly recovery. Evidence indicates that the simple crust communities that exist in the area will continue with grazing. As noted, there are a number of soil disturbing activities in the western Mojave desert. The roads, mining, rights-of-ways and development activities tend to be permanent dedication of sites and constitute a total loss of the crustal community. OHV activities can be short duration, but are generally repeated throughout the year. In contrast, grazing activities are short duration and allow

for yearly recovery. a large percentage of the soil surface is not trampled by cattle hooves and can aid in the recovery time by increasing the interface between disturbed soils and undisturbed soils. The net cumulative impact of cattle grazing in the region is very small because grazing is a small part of the regional activity and the soil crusts, where they exist, are a growing resource which will recover within a short period of time.

*Invasive Non-Native Species:*

There are a number of activities that result in site modifications and/or are vectors to move invasive/non-native species. Construction activities can disturb large areas and construction equipment is a well known carrier of seeds as it moves from infested areas to non infested area. The Ridgecrest Field Office Integrated Weed Management Plan includes a weed prevention section that addresses cleaning construction equipment to avoid contamination (USDI BLM2006b). Road maintenance moves seeds along the road sides as it progresses. Fill used for maintenance can contain seeds. Several new exotic species are following roads into and through the desert. OHV use modifies sites that can encourage exotic species. Cattle use at intense use sites such as corrals and watering sites can cause conditions that favor some invasive non-native species. For the most part these will be preexisting sites and the species will already be there. None of these alternatives would result in significant impacts from invasive non-native species.

*Soils:*

There are a large number of activities in the region which damage soils and cause soil losses. These uses include Paved and unpaved roads, rights-of-ways, residential and commercial construction, highway construction, and OHV activities. Eliminating grazing activities would make little changes in soil losses occurring in the region. Many of the possible grazing intense use sites are already being used for OHV and camping uses. Most of the regional erosion problems come from poor drainage on and adjacent to highways, roads, trails and rights-of-ways and construction activities. None of the alternatives would result in significant impacts to soils.

*Special Status Plants:*

A number of activities in the region potentially could impact Special Status Plants. These include roads, rights-of-ways, military activities, residential and commercial development OHV use and grazing. Many of these activities result in total habitat destruction. The largest threat to the Kelso monkeyflower is development on private lands in the Kelso Creek area which result in a total loss of habitat. Cattle grazing is more likely to cause the loss of individual plants. The special status plants have coexisted with cattle grazing for over 100 years. The historic use far exceeded the current proposed action and alternatives. It is no evidence that cattle grazing would cause significant impacts to any of the Special Plant Populations

*Water:*

There are a large number of activities in the region which degrade water quality. Grazing represents only a very small portion of the non-point-source pollution in the watersheds. These other uses include paved and unpaved roads, rights-of-ways, residential and commercial construction, highway construction, and OHV activities. The implementation of grazing BMPs or the elimination of grazing would not change the impaired classification for the watersheds. Most of the regional sediment problems come from poor drainage on and adjacent to highways, roads, trails and rights-of-ways and construction activities

*Vegetation:*

Grazing activities are short duration and allow for yearly recovery. Grazing consumes a portion of the renewable production and the rest and restrictions on use allow for recovery. Continuing cattle grazing would constitute the continuation of a use at a level 25% of its historic level 30 years ago with a number of environmental safeguards that did not exist 30 years age. Cattle grazing is one of several land uses that result in impacts to vegetation. Other impacting uses include paved and unpaved roads, rights-of-ways, residential and commercial construction and OHV use. All of these uses, except OHV use, result in a total removal of vegetation from areas. OHV use can be removed allowing recovery. This has been occurring through route designation and closures of routes in Wilderness. OHV racing has also declined over 50% in the last 16 years. The removal of grazing would still allow the other uses to continue to impact vegetation.

**CHAPTER 4:**

**PARTICIPATING STAFF**:

Team Lead: David Sjaastad

| Participating Staff | Resource Specialty |
|---|---|
| Donald Storm | Cultural Resources |
| Glenn Harris | Soil, Air, and Water, & Vegetation |
| Bob Parker | Wildlife, T/E Species, and Riparian |
| Martha Dickes | Wilderness |
| Craig Beck | Recreation and Off Highway Vehicles |
| Sam Fitton | Livestock Grazing |

APPENDIX 1

ALLOTMENT MAP

# APPENDIX 2

## PROPER USE FACTORS
## FOR KEY FORAGE SPECIES
## USED IN UTILIZATION MONITORING

**Proper Use Factors (P.U.F.) for Key Forage Species in the Rudnick Allotment**

| | P.U.F. | Forage Importance Index |
|---|---|---|
| I. Perennial Shrubs | | |
| 1. Atriplex canescens, Four Wing Saltbush | 40% | 0.4 |
| 2. Ephedra nevadensis, Nevada Joint Fir | 30% | 0.3 |
| 3. Grayia spinosa, Spiny Hopsage | 30% | 0.3 |
| 4. Krascheninnikovia lanata, Winterfat/White Sage | 40% | 0.4 |
| II. Grasses | | |
| 5. Oryzopsis hymenoides, Indian Rice Grass | 50% | 0.5 |
| 6. Stipa speciosa, Desert Needlegrass | 50% | 0.5 |

*Appendix XIII, Final Environmental Impact Statement and Proposed Plan, CDCA Plan, BLM, 9/1980, pp 64-76.

# APPENDIX 3

# RANGE IMPROVEMENTS

Rudnick Common Allotment Range Improvements

| Project Name, and Number | Location (T. R. S.) | Condition & Comments | Necessary Action |
|---|---|---|---|
| Nicolls Spring, 0 | T.26S, R.34E, S24 | Functional | |
| Weldon Quad Drift Fence, 0 | T.26S, R.35E, S30 | Functional | |
| Horse Canyon Spring Development, 5001 | T.27S, R.36E, S | Functional | |
| Western Spring, 5006 | T.29S, R.36E, S6 | Functional | |
| Colt Spring Development, 5007 | T.27S, R36E, S | Functional | |
| Butterbredt Spring Development, 5021 | T.29S, R.36E, S34 | Functional | |
| Cowboy Spring, 5023 | T.30S, R.36E, S23 | Non-functional | Reconstruct to improve livestock distribution |
| Sage Canyon Spring Development, 5030 | T.27S, R.37E, S | Functional | |
| Shoemaker Spring Development, 5031 | T.28S, R.35E, S12 | Functional | |
| Boulder Spring, 5032 | T.27S, R.37E, S18 | Functional | Fence to protect Archaeologic Site |
| Rock Spring and Trough, 5033 | T.27S, R.37E, S21 | N/A | |
| Quail Spring, 5047 | T.29S, R.35E, S29 | Functional | |
| Cow Heaven Spring Development, 5056 | T.27S, R.37E, S5 | Non-functional | Reconstruct to improve livestock distribution |
| Burning Moscow Spring Development, 5069 | T.28S, R.35E, S30 | Non-functional | Remove |
| Sageland Spring 5071 | T 28S, R35E, S21 | Functional | |
| Nudest Spring Development, 5077 | T.30S, R.37E, S8 | Functional | |
| Dove Spring Development, 5078 | T.28S, R.36E, S33 | Functional | |
| Willow Spring, 5081 | T.28S, R.35E, S24 | Functional | |
| Kelso Valley (Whitney) Well, 5202 | T.29S, R.35E, S8 | Non-functional | Reconstruct to improve livestock distribution |
| Dove Well & Storage, 5207 | T.28S, R.36E, S32 | Non-functional | Reconstruct to improve livestock distribution |

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| Kelso Road Well, 5208 | T.29S, R.35E, S26 | Functional | |
| Horse Canyon Well, 5213 | T.27S, R.35E, S24 | Functional | |
| Horse Canyon Well Development, 5215 | T.27S, R.37E, S30 | Functional | |
| Jawbone Canyon Well Development, 5218 | T.30S, R.36E, S28 | Non-functional | |
| Butterbredt Well & Reservoir, 5230 | T.29S, R.36E, S17 | Non-functioal | Reconstruct to improve livestock distribution |
| Bishop's Claim Well, 5231 | T.29S, R.37E, S30 | Functional | |
| LADPW Well #1, 5232 | T.28S, R.37E, S10 | N/A | |
| Highway Well, Pipeline, & Trough, 5233 | T.28S, R.37E, S10 | Non-functional | Reconstruct to improve livestock distribution |
| Bishop's Claim Well Development, 5242 | T.29S, R.37E, S30 | Non-functional | Needs a trough |
| Quail Spring Storage, 5276 | T.29S, R.35E, S29 | Functional | |
| Jawbone Canyon Well, Tanks, & Trough, 5287 | T.30S, R.35E, S28 | Functional | |
| Whitney Well, Storage, & Troughs, 5289 | T.29S, R.35E, S8 | Non-functional | Reconstruct to improve livestock distribution |
| Road Well Storage & Trough, 5290 | T.29S, R.35E, S26 | Functional | |
| Shoemaker Tank & Trough, 5291 | T.28S, R.36E, S8 | Functional | |
| Highway Well Tank, 5292 | N/A | Non-functional | Reconstruct to improve livestock distribution |
| Pinyon Well Reservoir, 5296 | T.27S, R.35E, S24 | Functional | |
| Quail Spring Pipeline, 5335 | T.29S, R.35E, S29 | Functional | |
| Cowboy Spring Pipeline & Trough, 5337 | T.30S, R.36E, S23 | Non-functional | Repair to improve cattle distribution |
| Jawbone Canyon Well, 5345 | T.30S, R.36E, S28 | Functional | |
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| Pinyon Well Storage Reconstruction, 5356 | T.27S, R.35E, S24 | Non-functional | |
| Pinyon Well Pipeline & Trough, 5369 | T.27S, R.35E, S24 | Functional | |
| Bishop Conduit Trough, 5371 | T.30S, R.37E, S6 | Functional | |
| Gold Peak Well Pipeline & Trough, 5374 | T.29S, R.36E, S1 | Non-functional | On private land and public land, Repair to improve cattle distribution |
| Bird Spring Pipeline, 5388 | T.28S, R.36E, S14 | N/A | Extend southeast to improve distribution of livestock |
| Lower Dove Springs Pipeline, 5389 | T.29S, 37E, S3 | N/A | Repair to carry water to Gold Peak trough, assure distribution of cattle. |
| Boulder Canyon Pipeline, 5390 | T.27S, R.37E, S32 | Functional | Extend southwest to improve distribution of livestock |
| Cow Heaven Pipeline, 5391 | T.27S, R.37E, S5 | Functional | |
| Butterbredt Pipeline Development, 5404 | T.29S, R.36E, S7 | Functional | |
| Shoemaker Pipeline, 5406 | T.28S, R.35E, S12 | N/A | |
| Willow Spring Pipeline & Trough, 5409 | T.28S, R.35E, S24 | Functional | |
| Cow Heaven Tanks & Troughs, 5413 | T.27S, R.37E, S | Non-functioanl | Reconstruct to improve livestock distribution |
| Rankin Pipeline & Trough, 5429 | T.27S, R.37E, S25 | Functional | Extend siphon to assure better water supply & improve livestock distribution |
| Double Syphon Pipeline & Trough, 5430 | T.27S, R.37E, S33 | N/A | Extend siphon to assure better water supply and improve livestock distribution |
| Little Syphon Pipeline & Trough, 5431 | T.28S, R.37E, S17 | Good | Extend siphon to assure better water supply and improve livestock distribution |
| Section 32 Syphon, 5432 | T.28S, R.37E, S32 | Non-functional | Repair to improve cattle distribution |
| Section 17 Syphon, 5434 | T.29S, R.37E, S17 | Functional | Extend siphon to assure better water supply and improve livestock distribution |
| Jawbone Canyon Drift Fence, 5475 | T.30S, R.36E, S24 | Non-functional | Remove |
| Jawbone-Redrock Fence, Gates, & C.G., 5490 | T.29S, R.37E, S11 | Non-functional | Repair |
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| Lower Jawbone Canyon Fence, 5493 | T.30S, R.37E, S22 | Functional | |
| Soldier Well Drift Fence & Gates, 5501 | T.27S, R.38E, S7 | Functional | |
| Freeman Aqueduct Fence, 5514 | T.27S, R.37E, S25 | Functional | |
| Bird Spring Canyon Fence, 5515 | T.28S, R.37E, S1 | Functional | |
| Dove Springs Canyon Fence, 5519 | N/A | Functional | |
| Freeman Junction Drift Fence & Gates, 5522 | T.27S, R.38E, S8 | Functional | |
| Rock Point Fence, 5524 | N/A | N/A | Proposed, never built, --- remove from files |
| New Soldier Well Drift Fence, 5529 | T.27S, R.37E, S1 | Functional | |
| Dove Springs Fence, 5531 | T.29S, R.36E, S6 | Functional | |
| San Antonio Fence, 5532 | T.29S, R.36E, S6 | Functional | |
| Butterbredt Cyn, Fence 5533 | T.29S, R.36E, S6 | N/A | Proposed to better distribute cattle |
| Dove Springs Pass Drift Fences, 5534 | T.27S, R.36E, S29 | N/A | Proposed to better distribute cattle |
| Kelso Road Fence, 5535 | N/A | N/A | Remove from files, exists under a different name |
| Hoffman Summit Fence (& Cattle Guard?), 5536 | T.26S, R.35E, S19 | N/A | |
| Onyx Drift Fence & Cattle Guard, 5537 | T.27S, R.35E, S28 | Functional | |
| Rudnick Exclosures, 5538 | T.28S, R.36E, S3 | N/A | |
| Frog Pass Drift Fence, 5542 | N/A | *N/A | Proposed --- Remove from files. Exists under a different name |
| Pinyon Well Pasture Fence, 5543 | T.27S, R.35E, S26 | N/A | |
| Bird Springs Pass Drift Fence, 5554 | N/A | *N/A | Proposed ---Protect vegetation and distribute cattle. |
| Lower Jawbone Guard, 5563 | T.30S, R.37E, S21 | N/A | |
| Boulder Springs | T.27S, R.37E, S18 | N/A | Proposed ---Protect archaeological site |

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| Fence, 5567 | | | |
| Linebarger Fence, 5568 | T.28S, R.37E, S33 | N/A | |
| Soldier Wells Corral, 5576 | T.27S, R.37E, S1 | Functional | |
| Shorthorn (Little Syphon) Corral, 5577 | T.28S, R.37E, S17 | Functional | |
| Kelso Valley Holding Corral, 5578 | T.29S, R.35E, S8 | Functional | |
| Dove Spring Holding Corral, 5580 | T.28S, R.36E, S33 | Functional | |
| Kelso Road Well Corral, 5587 | T.27S, R.35E, S26 | Non-functional | |
| Linebarger Holding Corral, 5592 | T.28S, R.37E, S28 | Functional | |
| Sageland Holding Corral, 5596 | T.28S, R.35E, S21 | Functional | |
| Alexander Holding Corral, 5600 | T.28S, R.36E, S14 | Functional | |
| Horse Canyon Corral, 5609 | T.27S, R.37E, S30 | Non-functional | |
| Pinyon Well Corral, 5618 | T.27S, R.35E, S24 | Functional | |
| Sugarloaf Cattle Guard, 5628 | T.30S, R.36E, S7 | Non-functional | Clean |
| Jawbone Canyon Drift Fence & C.G., 5630 | T.30S, R.36E, S24 | Non-functional | Remove |
| Jawbone-Redrock Cattle Guard #1, 5635 | T.29S, R.37E, S14 | Functional | |
| Jawbone-Redrock Cattle Guard #2, 5643 | T.29S, R.37E, S22 | Functional | |
| Linebarger North Cattle Guard, 5645 | T.28S, R.37E, S28 | Functional | |
| Dove Spring Cattle Guard #1, 5646 | T.28S, R.37E, S10 | Functional | |
| Lower Dove Spring Cattle Guard, 5647 | T.29S, R.37E, S15 | Functional | |
| Dove Spring Cattle Guard #1, 5648 | T.29S, R.37E, S9 | Non- functional | Reconstruct to improve distribution of livestock |
| Bird Springs Fence | T.28S, R.37E, S8 | Functional | |

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| Cattle Guard #1, 5652 | | | |
| Jawbone Canyon Road Cattle Guard, 5654 | T.29S, R.36E, S33 | Non-functional | Reconstruct to improves distribution of livestock |
| Bird Springs Canyon Cattle Guard #2, 5655 | T.28S, R.37E, S7 | Functional | |
| Rankin Cattle Guard, 5660 | T.27S, R.37E, S25 | Non-functional | |
| Horse Canyon Road Cattle Guard, 5661 | T.28S, R.37E, S5 | Functional | |
| Linebarger East Cattle Guard, 5662 | T.28S, R.37E, S26 | Functional | Raise to improve distribution of livestock |
| Lower Jawbone Cattle Guard #2, 5666 | T.30S, R.37E, S28 | Non-functional | |
| Dove Spring Cattle Guard #3, 5667 | T.29S, R.37E, S4 | Unknown | |
| Virginia Cattle Guard & Gate, 5668 | T.28S, R.36E, S33 | Functional | |
| Dove Well Cattle Guard, 5669 | T.28S, R.36E, S32 | Functional | |
| Gold Peak Cattle Guard #1, 5671 | T.29S, R.36E, S6 | Functional | |
| Butterbredt Cattle Guard #1, 5676 | T.29S, R.35E, S1 | N/A | Proposed for better distribution of cattle |
| Pinyon Well Pasture Cattle Guard, 5680 | T.27S, R.35E, S26 | N/A | Proposed, may not need |
| Butterbredt Cattle Guard #2, 5681 | T.29S, R.36E, S33 | Non-functional | Clean regularly to improve livestock distribution |
| Freeman Aqueduct Cattle Guard #2, 5684 | T.27S, R.38E, S7 | Functional | |
| Jawbone-Redrock Fence Cattle Guard #3, 5686 | T.30S, R.37E, S4 | Functional | |
| Jawbone Storage Cattle Guard, 5687 | T.30S, R.37E, S28 | N/A | |
| Jawbone-Redrock Fence Cattle-Guard #4 5693 | T.30S, R37E, S5 | N/A | |
| Jawbone-Redrock Fence Cattle Guard #5 5694 | T.30S, R.37E, S7 | Functional | |

N/A = Information not available

# APPENDIX 4

## TABLES

## SPECIAL STATUS SPECIES (FAUNA)
## &
## WETLAND/RIPARIAN AREAS

Table 4A List of Special Status Species on Rudnick Allotment (Potential and Confirmed) adapted from BLM's (2004) OHV Grant proposal

| Common Name | Scientific Name | Habitat | Legal Status | Notes on Surveys and Monitoring |
|---|---|---|---|---|
| Tehachapi slender salamander | *Battrachoseps stebbinsi* | moist canyons among live oaks and gray pines (*Pinus sabiniana*) with rocks or talus; possibly present in the ACEC in higher elevation forests, especially at springs | ST | Potential habitat in upper Jawbone Canyon and at other springs. No surveys exist; surveys scheduled for FY 2003 (not funded by the OHMVR Commission). Likeliest to be found in Boulder or Sage canyons |
| Kern Plateau slender salamander | *Battrachoseps robustus* | Lodgepole, pinion pine, gray pines (*Pinus sabiniana*), big sagebrush, rabitbrush, with rocks; present in Ninemile Canyon (1), possibly other canyons | | Record from upper Nine-mile Canyon and Scodie Mountains to the south of allotment. (Jockusch and Wake, 2002 and Wake et al, 2002) Likely in similar habitat in upper Sand, Short, Grapevine, Five-mile, No-Name canyons, possibly others. |
| southern rubber boa | *Charina bottae* ssp. *umbractica* | higher elevations, rock outcrops, riparian areas; possibly present in the ACEC | ST | Potential habitat; no records of the species in the ACEC. No surveys exist; surveys scheduled for FY 2003 (not funded by the OHMVR Commission). |
| western pond turtle | *Clemmys marmorata* ssp. *pallida* | potentially present on the west slopes of the ACEC, particularly at Kelso Creek | BLM species of concern, CA species of concern | Occurs at the Kern River Preserve and could occur on the west side of the ACEC. No surveys or monitoring are planned. |
| desert tortoise | *Gopherus agassizii* | river washes, rocky hillsides, and flat desert having sandy or gravelly soil. Creosote bush (*Larrea tridentata*), burrobush (*Ambrosia dumosa*), saltbush (*Atriplex* spp.), Joshua tree (*Yucca brevifolia*), and cacti; diverse grasses and forbs essential as food sources, to 4,000 feet elevation | FT ST | Records for lower slopes up to 4,000 feet, including the Kelso Valley on eastside of the ACEC. The ACEC is not federally designated critical habitat. Baseline survey began in FY 2002 for the ACEC; planned conclusion is in FY2003. In FY 2004 and beyond, BLM Ridgecrest will study individual population clusters of desert tortoises in the ACEC and in comparable wilderness sites using monitoring methods recommended by the US Fish and Wildlife Service. |
| California legless lizard | *Anniella pulchra* ssp. *pulchra* and spp. *nigra* | sparsely vegetated woodland, sandy loam soils of stabilized dunes, and undisturbed desert scrub at the western edge of the Mojave Desert | CA species of concern | Occurs in the western Mojave Desert in the Antelope Valley; may occur in the Jawbone-Butterbredt ACEC. The Ridgecrest BLM is monitoring for all lizard species in pitfall trap arrays in Dove Springs Open OHV Area and in nearby comparable wilderness areas (as control sites). |
| northern harrier | *Circus cyaneus* | Migrant and wintering birds use upland habitats with low vegetation (saltbush or creosote scrub), but wintering birds tend to concentrate in agricultural fields. | CA species of special concern 2 | Fairly common migrant and uncommon winter resident. Numbers of wintering harriers are small enough that meaningful monitoring is not possible. |
| sharp-shinned hawk | *Accipiter striatus* | Does not breed in the ACEC. During migration and in the winter occurs most habitats except bare areas, preferring montane forest, Joshua tree woodland, and riparian areas. | CA species of special concern 3 | Uncommon migrant and winter resident. Numbers of wintering sharp-shinned hawks are small enough that meaningful monitoring is not possible. |
| Cooper's hawk | *Accipiter cooperi* | Breeding occurs in open montane forests, riparian woodlands, and desert oases. | CA species of special concern 3 | Known from Walker Pass in the summer. Small numbers of migrants may supplement year-round resident birds. Aerial and ground searches for nesting |

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| | | | | pairs begins in FY 2004. |
| Swainson's hawk | *Buteo swainsoni* | riparian woodland or sparse savannah with tall (usually > 40 feet) oak, cottonwood, walnut, and / or large willow for nesting and adjacent open land such as native grasslands, cereal or alfalfa fields for foraging | ST | Records in Kelso Valley inside the ACEC; potential foraging habitat across the entire ACEC; not known to nest in the ACEC. No surveys exist; no directed survey is planned unless field observations indicate breeding pairs are present in the ACEC. |
| ferruginous hawk | *Buteo regalis* | winter habitats are native grasslands and shrub-steppes; human-dominated habitats include pastures and fallow cropland with abundant rodents. | BLM species of concern, CA species of special concern 3 | Occurs as a winter visitor or migrant and most numerously in weedy grasslands and agricultural regions. Numbers of wintering ferruginous hawks are small enough that meaningful monitoring is not possible. |
| golden eagle | *Aquila chrysaetos* | remote cliff ledges in mountains for nesting; forages widely across all habitats in the Mojave Desert landscape but prefers rolling foothills and mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, and cliffs and rock outcrops | BLM sensitive species, CA species of special concern 3 | Frequent records during the breeding season but no definite breeding records in recent years. Historical surveys on file at the Ridgecrest FO. Aerial flight survey is planned for FY 2004. |
| prairie falcon | *Falco mexicanus* | sheltered cliff ledges, bluffs, or rock outcrops for nesting; perennial desert grasslands and desert shrub lands in the Jawbone-Butterbredt ACEC, the Rand Mountains, Fremont Valley and elsewhere in the Ridgecrest FO | BLM sensitive species, CA species of special concern 3 | Widespread but uncommon at all seasons. Robber's Roost, located in the north part of the ACEC has had up to two pair of nesting falcons (Parker, 1993). Axelson (2000) reported an active prairie falcon aerie in the western part of the ACEC. Historical surveys on file at the Ridgecrest FO; Ridgecrest FO wildlife biologist will survey Robber's Roost in FY 2003. Aerial flight survey planned for FY 2004. |
| western yellow-billed cuckoo | *Coccyzus americanus* ssp. *occidentalis* | Breeding in extensive cotton / willow riparian habitat with large trees, closed canopy, and large tree crown and foliage volume | SE | Known as a migrant in the ACEC along Kelso Creek and possibly elsewhere in the ACEC. Breeds nearby at the Kern River Preserve. No breeding surveys are planned unless birders note breeding pairs in the ACEC. |
| burrowing owl | *Athene cunicularia* | open, dry desert grass- and shrubland and in grass, forb and open shrub stages of pinyon-juniper woodland for foraging; nesting and roosting in ground squirrel or other rodent burrows | BLM sensitive species, CA species of special concern 2 | Widespread winter migrants to the Ridgecrest FO area supplement resident birds. Breeding pairs are usually on agricultural lands and not known specifically to nest at the ACEC. No surveys exist at present. Once USGS and BLM develop the planned survey method for burrowing owls, BLM will begin monitoring known habitat sites in the ACEC. If a breeding population is found, intensive monitoring of breeding will begin; winter population will be tracked through the winter bird surveys in the ACEC. |
| long-eared owl | *Asio otus* | Both breeding and winter habitats often consist of extensive cottonwoods and willows, as well as plantings of exotic species, including tamarisk | CA species of special concern 2 | Nesting recorded in the ACEC. BLM Ridgecrest will conduct surveys for nesting pairs in collaboration with the Point Reyes Bird Observatory. |
| black swift | *Cypseloides niger* | cliffs behind or adjacent to waterfalls or steep coastal | CA species of special | Closeby breeding occurs in the southern Sierra Nevada (Tulare County) and San Bernardino Mountains. Noted |

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| | | cliffs | concern 3 | as a migrant elsewhere on BLM lands in the Ridgecrest Field Office area. Breeding is not likely and no monitoring is planned. |
| Vaux's swift | *Chaetura vauxi* | Occurs only as a migrant in the ACEC but breeds in the nearby Sierra Nevada | CA species of special concern - addition | No monitoring is planned because swifts are present only as overflight migrants. No breeding is known from high-elevation woodlands in the ACEC. |
| southwestern willow flycatcher | *Empidonax traillii extimus* | broad river valleys with lush growth of shrubby willows; dense willow thickets with minimal cattle browsing are required for nesting and roosting | FE CA species of special concern 1 | Records in Kelso Creek in the ACEC; no known breeding. Potential suitable habitat is being delineated in FY2003. Breeding could occur in suitable habitat from growth in population at the nearby Kern River Preserve, but most riparian areas are too narrow in width. Previous surveys in 2001 found no nesting willow flycatchers. |
| vermilion flycatcher | *Pyrocephalus rubinus* | Breeds in parklands, at golf courses, or in native riparian woodlands with large cottonwoods and willows | CA species of special concern 1 | This species breeds sporadically nearby in the city of Ridgecrest and at the Kern River Preserve. No monitoring is planned unless birders find nesting pairs in the ACEC. |
| brown-capped flycatcher | *Myiarchus tyrannulus* | Riparian woodland or forest dominated by cottonwoods and willows. In residential areas, the species may nest in planted trees or even telephone poles | CA species of special concern 3 | Nests closeby at the Kern River Preserve and could nest in appropriate riparian habitat in the ACEC. This species has expanded its range in California to include the Kern River valley over the last 35 years. No monitoring is planned unless birders find nesting pairs. |
| loggerhead shrike | *Lanius ludovicianus* | Foraging may occur in all habitats, especially those with open terrain and well-spaced lookout posts. Breeding requires patches of dense vegetation to hide nests. | USFWS Species of concern, CA species of special concern - addition | Winter migrants augment the resident population in the ACEC. BLM Ridgecrest will do nest searches in the ACEC in FY 204 to delineate breeding habitat and monitor habitat and reproductive success. |
| least Bell's vireo | *Vireo belli* ssp. *pusillus* | Nests in willow-dominated riparian zones, including mulefat *Baccharis salicifolius* | FE SE | Breeds nearby at the Kern River Preserve and could possibly nest in the ACEC if habitat were available. Birds were noted at Butterbredt Springs in late May 2001. If birders find nesting pairs, BLM will monitor breeding pairs. |
| gray vireo | *Vireo vicinior* | Arid slopes dominated by shrubs, but interspersed typically with pinyon, juniper, Joshua-trees | CA species of special concern 2 | Historical record of breeding in pinyon-juniper woodland habitat in Walker Pass. BLM will collaborate to conduct a search of suitable habitats for gray vireo in FY 2004. |
| ommon raven | *Corvus corax* | Arid and desert montane lands | BLM Ridgecrest species of concern | This species may be a major predator on desert tortoises. Raven flocks concentrate frequently where refuse accumulates. BLM will monitor OHV recreation sites to detect unnaturally high concentrations of ravens and effects of site clean-ups after big holiday weekends. Desert tortoise surveys document effects of raven-caused mortality for tortoises. |
| California thrasher | *Toxostoma redivivum* | Chaparral shrublands and (locally) Mojave Desert shrublands | BLM Ridgecrest species of concern | Found at the northern limit of its range on the eastside of the Sierra Nevada in the westside of the ACEC. Searches for breeding pairs on BLM lands in FY 2004. |
| LeConte's thrasher | *Toxostoma lecontei* | desert washes and flats with scattered shrubs, cacti, and a few small trees, including Joshua trees, plus large areas of open, sandy, or alkaline terrain | BLM sensitive species, CA species of special concern 3 | Many records on the eastslope of the ACEC. The BLM Ridgecrest Desert Monitoring Team is building a mappable database of sightings from which to initiate a long-term monitoring study. Searches for breeding pairs on BLM lands based on monitoring data to date will begin in FY 2004. |

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| yellow warbler | *Dendroica petechia* | Nests in riparian forest and woodland with cottonwood and willows | CA species of special concern 2 | Often hundreds of yellow warblers migrate daily through Butterbredt Canyon in the spring, with smaller numbers in the fall. No nesting known from the ACEC. Nests at the nearby Kern River Preserve (500 pairs found in 1997). Monitoring breeding pairs for nesting success will take place if birders find breeding pairs. |
| yellow-breasted chat | *Icteria virens* | Nests in riparian forest and woodland with cottonwood and willows. During migration, the species may appear in all vegetation types. | CA species of special concern 2 | Nests nearby in the Kern River Preserve (between 50 and 100 pairs annually). If birders find nesting pairs inside the ACEC, monitoring nesting success will begin. |
| summer tanager | *Piranga rubra* | Riparian woodland, usually dominated by large cottonwoods and willows. | CA species of special concern 2 | As many as 30 to 38 pairs nest at the nearby Kern River Preserve. If birders find nesting pairs inside the ACEC, monitoring nesting success will begin. |
| tricolored blackbird | *Agelaius tricolor* | Nests colonially in tule marshes in or near the Central Valley. Winter habitat is usually agricultural fields in mixed-species flocks of other blackbirds. | CA species of special concern - addition | Marsh habitats for nesting do not occur in the ACEC. Some migrant or wintering birds visit irrigated agricultural fields on private lands on the west side of the ACEC. No monitoring is planned. |
| black-tailed hare (jackrabbit) | *Lepus californicus* | principally canyon bottoms, alluvial fans, and flats with 0 to 25 percent slope | BLM species of special concern in the ACEC | Widespread species but with populations fluctuating considerably based on available forage vegetation and ultimately on rainfall. Interest in this species reflects concern about the competition of cattle and hares for forage. Monitoring occurs as part of winter and spring brid monitoring in creosote scrub habitats. |
| Mohave ground squirrel | *Spermophilus mohavensis* | a diverse mix of shrubs, forbs, and grasses with canopies dominated by creosote (*Larrea divaricata*), blackbrush (*Coleogyne ramosissima*), or Joshua tree (*Yucca brevifolia*) woodland, important food sources are winterfat (*Krascheninnikovia lanata*) and spiny hopsage (*Grayia spinosa*): 2,200 to 4,900 feet at (Laabs and Alaback 1991, Leitner 2000) | ST | Trapping records for eastern slopes of the ACEC (1980 to 2002), sight records from western slopes. Professor Phillip Leitner is developing a more complete map of known and potential habitat in FY 2002-2004. Baseline survey with monitoring began in FY 2002 in the Jawbone-Butterbredt ACEC. |
| Tehachapi white-eared pocket mouse | *Perognathus alticolus* ssp.*inexpectatus* | habitat is poorly described - principally desert annual grasslands and shrublands | BLM sensitive species, CA species of special concern 3 | Known from Sand Canyon, about 8 mi E (by rd.) Tehachapi, sec. 28, T32S, R34E, 4080 ft, 3 (CSLB), 1 (MSB). This species may occur in the ACEC. Pitfall traps located in Dove Springs Open OHV Area may serve to monitor this species. No monitoring is planned until a baseline survey occurs (FY 2004). |
| yellow-eared pocket mouse | *Perognathus xanthonotus* | found in Joshua tree and pinyon-juniper woodlands, desert shrubland, montane chaparral and sagebrush, and bunchgrass lands between 3,380 and 5,300 feet elevation; know from 6 locales in a limited range between Kelso Valley to Sand Canyon on the interface between the Sierra | BLM sensitive species | Records from the northern part of the ACEC. Overlap of range with routes of OHV travel not known, nor how human land uses such as grazing impact the species. No surveys exist. A survey is scheduled for FY 2004. The species is known from Kelso Valley, Horse Canyon, Sage Canyon, Freeman Canyon, Indian Wells Canyon and Sand Canyon. |

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| | | Nevada and Mojave Desert; habitat and meteorological requirements for breeding are not known (Laabs, West Mojave Species Accounts, 1997) | | |
| California leaf-nosed bat | *Macrotus californicus* | sedentary, non-hibernating; roosting and raising young in caves and abandoned mines with geothermal heating; range and behavior poorly known | BLM sensitive, CA species of special concern 2 | No known records. May not depend on riparian habitat. Reconnaissance bat habitat survey began in FY 2002, and species-directed surveys are scheduled for FY 2004 and beyond. |
| spotted bat | *Euderma maculatum* | roosts in cliff crevices, habits and habitat preferences not well described; not a colonial species; seasonal migrations elevationally; foraging areas may be 20 miles or more away from roost; diet consists almost entirely of moths | BLM sensitive, CA species of special concern - addition | Very rare: records from Red Rock Canyon State Park only. Potential foraging habitat in riparian habitat is being delineated in FY2003. Reconnaissance bat habitat survey begun in FY 2002, and species-directed surveys are scheduled for FY 2004 and beyond. |
| pallid bat | *Antrozous pallidus* | roost in rock crevices, tree cavaties, buildings, bridges, and occasionally caves and mines in arid regions; colonial intra- and inter-specifically; food mostly flightless arthropods but may eat lizards, rodents, and even other bats | BLM sensitive, CA species of special concern - addition | No known records. Potential foraging habitat in riparian habitat is being delineated in FY2003. Reconnaissance bat habitat survey begun in FY 2002, and species-directed surveys are scheduled for FY 2004 and beyond. |
| Townsend's big-eared bat | *Plecotus townsendii* | forages in arid grasslands and deserts but ranges also into high-elevation forests and meadows; roosting occurs in limestone caves, lava tubes, mine tunnels, buildings, and other human-made structures; hibernates in cool caverns or mines; maternity colonies in warmer portions of caves; non-migratory; feeds on moths; location of preferred habitats in the Mojave Desert poorly known | BLM sensitive, CA species of concern 2 | No known records. Potential foraging habitat in riparian habitat is being delineated in FY2003; prone to disturbance - large colonies of female bats may abandon maternity sites after a single visit by people can cause the bats to abandon a roost. Reconnaissance bat habitat survey begun in FY 2002, and species-directed surveys are scheduled for FY 2004 and beyond. |
| California bighorn sheep | *Ovis canadensis* ssp. *californiana* | Open, steep, rocky terrain above the desert floor | FE SE | Not present; the ACEC management plan calls for evaluating the purposefulness of reintroducing bighorn sheep into the ACEC. To date no reintroductions have taken place and none are planned. No monitoring is planned. |

Table 4B Ratings and Cover (1- 1.9= poor, 2- 2.9= fair, 3- 3.9=good, 4= excellent)

| Name of Spring | Riparian Condition Rating | Soil Alteration Rating | Vegetation bank Protection | Subsurface Water Status | Erosion Process | Apparent Water Quality Impacts | Est. Canopy Cover | Average Width Rip Zone Woody/ Total (meters) |
|---|---|---|---|---|---|---|---|---|
| Axelson Spring (Upper end) | 3.9 | 4 | 4 | 3.8 | Slight to none | None | 86.7% | 31.7/36.7 |
| Axelson Spring (Lower end) | 3.1 | 3.25 | 3.25 | 2.75 | Slight | N/A | 72.5% | 22.5/ 27.5 |
| Butterbredt Spring/Canyon (Lower Reach) | 3.37 | 3.35 | 3.35 | 3.4 | OHV | Livestock fecal | 75.5% | 26.6/ 34.2 |
| Butterbredt Spring/Canyon (Upper Reach) | 3.73 | 3.67 | 3.78 | 3.78 | OHV | N/A | 25.2% | 6.2/ 16.2 |
| Dove Springs Canyon (Upper Reach) | 2 | 2 | 2 | 2 | Old cattle, OHV erosion | Now Fenced, Ratings should improve | 25% | 10/ 30 |
| Dove Springs Canyon (Lower Reach) | 2.62 | 2.5 | 2.67 | 2.67 | Old cattle, OHV erosion | Same as above | 53.3% | 9.3/ 15 |
| Frog Spring | 2.8 | 2.8 | 2.67 | 2.83 | livestock | Livestock fecal | 78.3% | 6.3/ 10.3 |
| Kelso Creek (Reach I, South of Audubon Property) | 2.5 | 2.5 | 2.5 | 2.5 | livestock, OHV, bank collapse | Fenced, fecal from trespass/ upstream cattle | 33.8% | 40/ 100 |
| Kelso Creek (Reach II, South of Audubon Property) | 2.63 | 2.3 | 2.5 | 2.83 | livestock, OHV, bank collapse | fecal trespass/ upstream cattle | 11.7% | 8.3/ 48.3 |
| Kelso Creek (Rocky Point, Reach I) | 2.83 | 2.83 | 2.67 | 3 | Trespass cattle | Livestock fecal | 36.7% | 36.7/ 75 |
| Kelso Creek (Rocky Point, Reach II) | 3.16 | 3.17 | 3.17 | 3.17 | Trespass cattle | Livestock fecal | 46.7% | 33.3/ 51.7 |
| Nudist Spring | 4 | 4 | 4 | 4 | None | None | 87.7 | 14/ 18.3 |
| Sage Spring (Reach I) | 3.2 | 3.5 | 3.5 | 2.5 | None | Fenced | 80 | 25/30 |
| Sage Canyon (Reach II) | 2.8 | 3.5 | 2.5 | 2.5 | Livestock, OHV | Livestock, fecal | 5 | 5/25 |

Table 4C

| Name of Spring | Riparian Condition Rating 1993 | Mileage (1993) | % (1993) | Mileage (2001) | % (2001) | Riparian Condition Rating 2001 | Change from 1993 to 2001 |
|---|---|---|---|---|---|---|---|
| Axelson Spring | ND | ND | -- | .15 | 60 | 3.9 | No Data |
| Axelson Spring | ND | ND | -- | .1 | 40 | 3.1 | |
| | | | | | | | |
| Dove Spring I | 3 | .1 | 16 | .3 | 48 | 2 | Slight improvement |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Dove Spring II | 2.12 | .43 | 69 | .33 | 52 | 2.62 | |
| III | 2.6 | .09 | 15 | | | | |
| Frog Spring | ND | ND | | .1 | 100 | 2.8 | |
| | | | | | | | |
| Butterbredt Canyon I | 3.3 | .32 | 17 | 1.31 | 54 | 3.37 | Moderate improvement |
| Butterbredt Canyon II | 2.84 | .38 | 20 | 1.13 | 46 | 3.73 | |
| III | 3.3 | .137 | 7 | | | | |
| IV | 2.3 | .04 | 2 | | | | |
| V | 2.39 | .93 | 49 | | | | |
| VI | 3.6 | .1 | 5 | | | | |
| Kelso Creek S. I | ND | ND | -- | .45 | 42 | 2.5 | |
| Kelso Creek S. II | ND | ND | -- | .23 | 22 | 2.63 | |
| Kelso Creek Rocky Pt. I | ND | ND | -- | .13 | 12 | 2.83 | |
| Kelso Creek Rocky Pt. II | ND | ND | -- | .25 | 24 | 3.17 | |
| | | | | | | | |
| Nudist Spring I | 3.3 | .031 | 100 | .05 | 100 | 4 | Slight improvement |
| | | | | | | | |
| Sage Spring I | ND | ND | -- | .05 | 38 | 3.5 | |
| Sage Spring II | ND | ND | -- | .08 | 62 | 3 | |
| Totals | | 2.558 | | 4.66 | | | |

ND= Not Done

# APPENDIX 5

# LIVESTOCK GRAZING AMENDMENT

# SUPPLEMENTAL PROCEDURES FOR LIVESTOCK GRAZING PERMIT/LEASE RENEWALS

A CULTURAL RESOURCES AMENDMENT
TO
THE STATE PROTOCOL AGREEMENT

BETWEEN

CALIFORNIA BUREAU OF LAND MANAGEMENT
AND
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

The purpose of this amendment is to address the National Historic Preservation Act (NHPA) Section 106 compliance procedures for processing approximately 400 grazing permit/lease (hereafter "permit") renewals scheduled for 2004 through 2008. This amendment shall cover grazing permit renewals for livestock as defined in 43 CFR 4100.0-5 as "….domestic livestock – cattle, sheep, horses, burros, and goats." The following procedures will allow for renewal of the permits while maintaining compliance with the NHPA. Alternative approaches to this amendment may be developed by individual Field Offices, but such approaches shall fall under the Section 106 regulations of the NHPA (36 CFR Part 800) and shall require individual Field Office consultation with the SHPO.

These supplemental procedures are an amendment to the State Protocol dated April 6, 1998, which is scheduled for termination on October 25, 2004. These supplemental procedures will remain in effect when that Protocol is terminated and will become an amendment to a successor Protocol document.

This amendment deviates from the Protocol in *Section VI. Thresholds for SHPO Review*, which states, "*BLM shall complete the inventory, evaluation and assessment of effects and document all findings, including negative inventories and no effect determinations, in BLM files before proceeding with project implementation.*" This amendment would allow for renewal of an existing grazing permit prior to completing all NHPA compliance needs as long as Protocol direction, the BLM 8100 Series Manual guidelines (Protocol Amendment F), and the following specific stipulations are followed:

## I. Planning

Grazing permit renewals of any acreage size shall be scheduled for cultural resource compliance coverage over the next ten years. Such long term management includes scheduling for inventory, evaluation, treatment, and monitoring, as appropriate. Schedules for inventories of all renewals to be covered by this amendment shall be delineated by each participating Field Office and submitted to the SHPO and the State Office at the first annual reporting cycle for FY 2004.

This amendment shall only apply to the reissuance of grazing permit authorizations and existing range improvements. All new proposed undertakings for range improvements shall follow the established procedures within the Protocol or 36 CFR 800, the implementing regulations for Section 106 of NHPA.

II. Inventory Methodology

To address the impacts of grazing on cultural resources, a Class II sampling or reconnaissance survey strategy shall be devised by the cultural resource specialist in consultation with range staff which focuses inventory efforts on areas where livestock are likely to concentrate within areas of high sensitivity for cultural resource site locations. Congregation areas where it has been shown that the greatest levels of impact are likely to occur are generally around springs, water courses, meadows, and range improvement areas such as troughs and salting areas.

All existing range improvements within areas of high sensitivity for the location of cultural resource sites shall be inventoried. However, due to the fact that cattle trailing occurs along fence lines and the area of impact is limited to a one meter wide swath and impacts to cultural resources are generally restricted to this corridor, existing linear improvements will not be inventoried except in areas of high sensitivity for the location of cultural resource sites.

Salting areas may change from season to season making locating these areas problematic. Salting locations will be assessed by the cultural resource specialist in consultation with range staff and the permitee. The permitee will be asked to provide a map designating salting areas and these locations will be inventoried if they occur in areas where the probability for the occurrence of cultural resources is high. All livestock loading and unloading areas and corral areas will also be inventoried within areas of high sensitivity for the location of cultural resources.

A Class I records search will also be conducted for each allotment to ascertain previously recorded site locations and areas of prior survey coverage which can be accepted as meeting current standards. Sites located within livestock congregation areas will be visited to evaluate grazing impacts.

All areas identified for inventory in the survey strategy shall be covered intensely. All unrecorded site locations will be recorded and a report of findings for each allotment will be completed. These investigations shall only address public lands administered by BLM. Private, state and county in-holdings will not be evaluated.

III. Tribal and Interested Party Consultation

Field Offices will be responsible for contacting and consulting with Tribes and interested parties as outlined in 36 CFR 800 and the 8120 manual guidelines. This will also meet BLM government-to-government responsibilities for consultation.

IV. Evaluation

Determinations of eligibility to the National Register of Historic Places shall only be undertaken on sites or properties where it can be reasonably ascertained or it is ambiguous that range activities will continue to impact sites and further consultation with SHPO could be required.

V. Effect

A. Range undertakings where historic properties are not affected may be implemented under the Protocol without prior consultation with SHPO. These undertakings shall be documented in the Protocol Annual Report.

B. Range undertakings where historic properties are identified within APEs, and where historic values are likely to be affected or diminished by project activities, require consultation with SHPO, and ACHP if necessary, on a case-by-case basis, pursuant to 36 CFR 800.5-6.

VI. Treatment

Standard Protective Measures can include but are not limited to:

A. Fencing or exclosure of livestock from the cultural resource sufficient to ensure long-term protection, according to the following specifications:

1. the area within the exclosure must be inventoried to locate and record all cultural resources; and

2. the exclosure (i.e.) fence must not divide a cultural resource so that a portion is outside of the fence; and

3. the cultural resource specialist will determine the appropriate buffer to be provided between the cultural resource and its exclosing fence.

B. Relocation of livestock management facilities / improvements at a distance from cultural resources sufficient to ensure their protection from concentrated grazing use.

C. Removal of natural attractants of livestock to a cultural resource when such removal, in the judgment of the cultural resource specialist, will create no disturbance to the cultural resource (e.g. removing vegetation that is providing shade).

D. Removal of the area(s) containing cultural resources from the allotment.

E. Livestock herding away from cultural resource sites.

F. Use salting and/or dust bags or dippers placement as a tool to move concentrations of cattle away from cultural sites.

G. Locating sheep bedding grounds away from known cultural resource sites.

H. Other protective measures established in consultation with and accepted by SHPO.

The Standard Protective Measures defined above may be used to halt or minimize on-going damage to cultural resources. If the standard protection measures can be effectively applied, then no evaluation or further consultation with SHPO on effects will be necessary. The adopted Standard Protective Measures shall be added to grazing permit "Terms and Conditions" as appropriate for each grazing permit issued or reissued as fully processed permits (completed NEPA analysis, consultation, and decision). The "Terms and Conditions" for each permit may be modified by the addition, deletion, or revision of Standard Protective Measures as described in Section VII of these Supplemental Procedures.

VII. Monitoring

A. Field Offices shall adopt the following monitoring guidelines:

1. monitoring shall be conducted yearly and documented to ensure that prescribed treatment measures are effective; and

2. when damaging effects to cultural resources from grazing activities are ambiguous or indeterminate, Field Offices shall conduct monitoring, as necessary, to determine if degrading effects are resulting from grazing activities and if they are continuing to affect the characteristics that may make properties eligible to the NRHP or if they are otherwise adversely affecting the values of cultural resources.

B. When monitoring has yielded sufficient data to make effect determinations, the following apply:

1. When no additional degrading damage will likely occur because standard treatment measures are adequate to prevent further damage from rangeland management activities, SHPO consultation on a case-by-case basis is unnecessary.

2. When no additional degrading damage will likely occur, even without implementation of standard treatment measures, then no further treatment consideration of those resources is necessary, even if past grazing impacts to the ground surface are evident.

3. When additional degrading damage will likely occur, mitigation of adverse effects shall be addressed on a case-by-case basis, pursuant to 36 CFR 800.5-6.

When monitoring results or case-by-case consultation result in a determination concerning addition or deletion of Special Treatment Measure(s) for a specific allotment, then that Measure(s) will be added to, or deleted from, the Terms and Conditions of the fully processed permit for that allotment.

VIII. Disagreements

When a Field Office Cultural Heritage staff and Field Office Manager fail to agree on inventory, evaluation, monitoring, and application of Special Treatment Measures, then the Field Office Manager shall initiate consultation with the SHPO.

IX. Reporting and Amending

A. Each participating Field Office shall report annually to the SHPO and the State Office, a summary of activities carried out under this amendment to the Protocol during the previous fiscal year. The reporting shall be included in the Protocol Annual Report.

B. Annual reports shall summarize activities carried out under this amendment. These reports are not meant to be compilations of the individual project reports prepared for the

range projects; they are meant to be programmatic summaries of data and significant findings.

C. Annual reporting shall include at least three major sections:

1. schedules and status of accomplishments in meeting schedules for cultural resource activities in relation to the range management program as identified in Stipulation I; and

2. results, as annual summaries of accomplishment and significant findings resulting from rangeland management cultural resource activities; and

d. appendices to the report that would include project, coverage and cultural resource location maps and tabular summaries of total number of cultural resources located, new cultural resources located, cultural resources evaluated, types of treatment measures employed at each location, and cultural resources monitored.

D. Annual reports may contain recommendations for new or revised treatment measures.

E. Either party to this agreement may initiate a process to negotiate new or revised treatment measures or to revise the schedule of inventories. When such a process is initiated, the parties to this agreement shall negotiate new or revised treatment measures or schedule of inventories and such revisions or additions shall be issued as Attachments to these Supplemental Procedures.

STATE DIRECTOR, BUREAU OF LAND MANAGEMENT, CALIFORNIA

_/s/ james wesley abbott *for*_____

By Mike Pool Date: 8/17/04

STATE HISTORIC PRESERVATION OFFICER, CALIFORNIA

_/s/ milford wayne donaldson_____

By Milford Wayne Donaldson Date: 8/18/2004

# APPENDIX 6

# PROPOSED REGIONAL STANDARDS & GUIDELINES, &

# FALLBACK STANDARDS & GUIDELINES

# GOVERNING LIVESTOCK MANAGEMENT

**Part I**

Regional Standards

With the recent approval of the West Mojave Habitat Conservation Plan Amendment the following Standards and Guidelines are incorporated into the grazing permit & management practices.

*Standards:*

*Soil*

Soils exhibit infiltration and permeability rates that are appropriate to soil type, climate geology, landform, and past uses. Adequate infiltration and permeability of soils allow accumulation of soil moisture necessary for optimal plant growth and vigor , and provide a stable watershed as indicated by:

- Canopy and ground cover are appropriate for the site;
- There is diversity of plant species with a variety of root depths;
- Litter and soil organic matter are present at suitable sites;
- Maintain the presence of micro biotic soil crusts that are in place;
- Evidence of wind or water erosion does not exceed natural rates for the site;
- Hydrologic and nutrient functions maintained by permeability of soil and water; infiltration are appropriate for precipitation.

*Native Species*

Healthy, productive and diverse habitats for native species, including special status species (Federal T&E, federal proposed, federal candidates, BLM sensitive, or California State T&E, and CDD UPAs) are maintained in places of natural occurrence as indicated by:

- Photosynthetic and ecological processes continue at levels suitable for the site, season, and precipitation regimes;
- Plant vigor, nutrient cycle, and energy flow are maintaining desirable plants and ensuring reproduction and recruitment;
- Plant communities are producing litter within acceptable limits;
- Age class distribution of plants and animals are sufficient to overcome mortality fluctuations;
- Distribution and cover of plant species and their habitats allow for reproduction and recovery from localized catastrophic events;
- Alien and noxious plants and wildlife do not exceed acceptable levels;
- Appropriate natural disturbances are evident;
- Populations and their habitats are sufficiently distributed to prevent the need for listing special status species.

*Riparian/Wetland and Stream Function*

Wetland systems associated with subsurface, running, and standing water, function properly and have the ability to recover from major disturbances. Hydrologic conditions are maintained as indicated by:

- Vegetative cover will adequately protect banks, and dissipate energy during peak water flows;
- Dominant vegetation is an appropriate mixture of vigorous riparian species;
- Recruitment of preferred species is adequate to sustain the plant community;
- Stable soils store and release water slowly;
- Plants species present indicate soil moisture characteristics are being maintained;
- There is minimal cover of invader/shallow-rooted species, and they are not displacing deep-rooted native species;
- Maintain shading of stream courses and water sources for riparian dependent species;
- Stream is in balance with water and sediment being supplied by the watershed;
- Stream channel size and meander is appropriate for soils, geology, and landscape;
- Adequate organic matter (litter and standing dead plant material) is present to protect the site and to replenish soil nutrients through decomposition.

*Water Quality*

Surface and groundwater complies with objectives of the Clean Water Act and other applicable water quality requirements, including meeting the California State Standards, as indicated by:

- The following do not exceed the applicable requirements: chemical constituents, water temperature, nutrient loads, fecal coliform, turbidity, suspended sediment, and dissolved oxygen;
- Achievement of the Standards for riparian, wetlands, and water bodies;
- Aquatic organisms and plants (e.g., macro invertebrates, fish and algae) indicate support of beneficial uses;

Monitoring results or other data that show water quality is meeting the Standard.

*Manage grazing activities with the following Regional Guidelines.*

- Facilities are to be located away from riparian-wetland areas wherever they conflict with achieving or maintaining riparian-wetland functions.
- The development of springs and seeps or other projects affecting water and associated resources will be designed to protect the ecological functions and processes of those sites.
- Grazing activities at an existing range improvement that conflict with achieving proper functioning conditions (PFC) and resource objectives for wetland systems (lentic, lotic, springs, adits, and seeps ) will be modified so PFC and resource objectives can be met, and incompatible projects will be modified to bring them into compliance. The BLM will consult, cooperate, and coordinate with affected interests and livestock producer(s) prior to authorizing modification of existing projects and initiation of new projects. New range improvement facilities are to be located away from wetland systems if they conflict with achieving or maintaining PFC and resource objectives.
- Supplements will be located a sufficient distance away from wetland systems so they do not conflict with maintaining riparian wetland functions.
- Management practices will maintain or promote perennial stream channel morphology (e.g., gradient, width/depth ratio, channel roughness, and sinuosity) and functions that are appropriate to climate and landform.

- Grazing management practices are to meet State and Federal water quality standards. Where impoundments (stock ponds) and troughs that have a sustained discharge yield of less than 200 gallons per day to surface or groundwater are exempted from meeting State drinking water standards per SWRCB Resolution Number 88-63.
- In the California Desert Conservation Area all wildfires in grazing allotments will be suppressed. However, to restore degraded habitats infested with invasive weeds (e.g., tamarisk) prescribed burning may be utilized as a tool for restoration on a case-by-case basis. Prescribed burns may be used as a management tool for chaparral plant communities in the South Coast Region, where fire is a natural part of the regime.
- In years when weather results in extraordinary conditions seed germination, seedling establishment and native plant species growth shall beallowed by modifying grazing use.
- Grazing on designated ephemeral (annual and perennial) rangeland is allowed to occur only if reliable estimates of production have been made, an identified level of annual growth or residue to remain on site at the end of the grazing season has been established, and adverse effects on perennial species are avoided.
- During prolonged drought, range stocking will be reduced to achieve resource objectives and/or prescribed perennial forage utilization. Livestock utilization of key perennial species on year-long allotments will be checked about March 1 when the Palmer Severity Drought Index/Standardized Precipitation Index indicates dry conditions are expected to continue.
- Through the assessment process or monitoring efforts, the extent of invasive and/or exotic plants and animals will be recorded and evaluated for future control measures. Methods and prescription will be implemented, and an evaluation will be completed to ascertain future control measures.
- Restore, maintain or enhance habitats to assist in the recovery of federally listed threatened and endangered species. Restore, maintain or enhance habitats of special status species including Federal proposed, Federal candidates, BLM sensitive, or California State T&E to promote their conservation.
- Grazing activities will support biological diversity across the landscape, and native species and microbiotic crusts are to be maintained.
- Experimental research efforts shall be encouraged to provide answers to grazing management and related resource concerns through cooperative and collaborative efforts with outside agencies, groups, and entities.
- Livestock utilization limits of key perennial species would be as shown in the table below for various range types

| Table 1 -- | Percent Use of Key Perennial Species | |
|---|---|---|
| Range Type | Poor-Fair Range Condition or Growing Season | Good-Excellent Range Condition or Dormant Season |
| Mojave Sonoran scrub | 25 | 40 |
| Salt Desert shrub land | 25 | 35 |
| Semi-desert grass and shrub land | 30 | 40 |
| Sagebrush grassland | 30 | 40 |
| Mountain shrub land | 30 | 40 |

(Table copied from WEMO FEIS of January 2005, page 2-124)

Table 1, above, is applicable for measuring utilization on an association of key perennial forage species for various range types based upon the condition class of the range or the season of the year. However, utilization transects conducted by Ridgecrest field staff measure specific use of individual

plant species and are not averaged. Therefore, Table 2, below, lists the proper use factors (P.U.F.'s that correspond to Percent Use) for the individual perennial forage species found on the Deep Springs and South Oasis allotments that are also represented in the range types in Table 1. (P.U.F.'s are found in the CDCA Plan of 1980.)

Since the grazed areas in Deep Springs and South Oasis allotments are partially inclusive of the range types listed in the Table 1 the Ridgecrest FO proposes to limit grazing in the spring growing season to a maximum of 25% utilization, and during the dormant season utilization will be limited to a maximum of 40%.

| Table 2---Deep Springs & South Oasis Perennial Forage Species and P.U.F.'s | | | | |
|---|---|---|---|---|
| Shrubs | Common Name | CDCA P.U.F. (%) | Growing Season 25%max | Dormant Season 40%max |
| *Atriplex canescens* | Four Wing Saltbush | 40 | 25 | 40 |
| *Graya spinosa* | Spiny Hopsage | 30 | 25 | 30 |
| *Krascheninnikovia lanata* | Winter Fat, White Sage | 40 | 25 | 40 |
| *Ephedra nevadensis* | Mormon Tea | 30 | 25 | 30 |
| Grasses | | | | |
| *Achnatherum hymenoides* | Indian Rice Grass | 50 | 25 | 40 |
| *Achnatherum speciosa* | Desert Needlgrass | 50 | 25 | 40 |

**Part II**

These are the Fall Back Standards and Guidelines which will be in effect until the Secretary of Interior signs the new Regional Standards and Guidelines.

**43 CFR 4180.2 Standards and Guidelines for Grazing Administration**

*(1) Fallback standards.*

(i) Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and landform.

(ii) Riparian – wetland areas are in properly functioning condition.

(iii) Stream channel morphology (including but not limited to gradient width/depth ratio, channel roughness and sinuosity) and functions are appropriate for climate and landform.

(iv) Healthy, productive and diverse populations of native species exist and are maintained.

*(2) Fallback Guidelines*

(i) Management practices maintain or promote adequate amounts of ground cover to support infiltration, maintain soil moisture storage, and stabilize soils;

(ii) Management practices maintain or promote soil conditions that support permeability rates that are appropriate to climate and soils;

(iii) Management practices maintain or promote sufficient residual vegetation to maintain, improve or restore riparian-wetland functions of energy dissipation, sediment capture, groundwater recharge, and stream bank stability;

(iv) Management practices maintain or promote stream channel morphology (e.g., gradient, width/depth ratio, channel roughness and sinuosity) and functions that are appropriate to climate and landform;

(v) Management practices maintain or promote the appropriate kinds and amounts of soil orgainisms, plants and animals to support the hydrologic cycle, nutrient cycle, and energy flow;

(vi) Management practices maintain or promote the physical and biological conditions necessary to sustain native populations and communities;

(vii) Desired species are being allowed to complete seed dissemination in 1 of every 3 years (Management actions will promote the opportunity for seedling establishment when climatic conditions and space allow.);

(viii) Conservation of Federal threatened or endangered, Proposed, Category 1 and 2 candidate, and other special status species is promoted by the restoration and maintenance of their habitats;

(ix) Native species are emphasized in the support of ecological function;

(x) Non-native plant species are used only in those situations in which native species are not readily available in sufficient quantities or are incapable of maintaining or achieving properly functioning conditions and biological health;

(xi) Periods of rest from disturbance or livestock use during time of critical plants growth or re-growth are provided when needed to achieve healthy, properly functioning conditions (The timing and duration of use periods shall be determined by the authorized officer.);

(xii) Continuous, season-long livestock use is allowed to occur only when it has been demonstrated to be consistents wit achieving healthy, properly functioning ecosystems.

(xiii) Facilities are located away from riparian-wetland areas wherever they conflict with achieving or maintaining riparian-wetland function;

(xiv) The development of springs and seeps or other projects affecting water and associated resources shall be designed to protect the ecological functions and processes of those sites; and

(xv) Grazing on designated ephemeral (annual and perennial) rangeland is allowed to occur only if reliable estimates of production have been made, an identified level of annual growth or residue to remain on site at the end of the grazing season has be established, and adverse effects on perennial species are avoided.

# APPENDIX 7

# CONSULTATION, COOPERATION, COORDINATION

Below is listed the CCC with the permittee/lessees and other interested public that have been completed for this action.

May 6, 2004: Notice of Proposed Action (NOPA) sent out to affected interests and interested public. The NOPA covered Rudnick Common allotment which encompass wilderness areas.

**Affected Interests:**

June 30, 2004: Chapters 1 & 2 and a letter sent to all sheep operators asking for comments and input to the Environmental Assessment covering Rudnick Common Allotment (Rudnick EA).

August 25, 2004: Chapters 1 & 2 of Rudnick EA sent to both operators.

September 30, 2004: Rudnick EA (all four chapters) and proposed decision sent to both operators.

March 3, 2006: Notice of vacated decision on proposed decision of September 2004 sent out from Ridgecrest Field Office to both operators.

April 7, 2006: Revised Rudnick EA mailed out for 30 day comment period to both operators.

**Interested Public:**

August 10, 2004: E-mail from Center for Biological Diversity (CBD) asserting that they and another member of the interested public had not been included in the previous mailing were being denied their right to review Chapters 1 & 2.

August 18, 2004: Chapters 1 & 2 of EA sent to CBD and Western Watersheds Project (WWP).

August 25, 2004: Chapters 1 & 2 of Rudnick EA sent to all interested public.

September 24, 2004: Comments from California Native Plant Society received at Ridgecrest Field Office.

September 30, 2004: Rudnick EA (all four chapters) and proposed decision sent to all interested public for comment and protest.

October 14-18, 2004: Document dated Oct. 14th from WWP received at Ridgecrest Field Office. Document contained comments and protests.

October 15, 2004: Comments and protests on Rudnick EA by CBD received at Ridgecrest Field Office.

October 18, 2004: Comments and protests on Rudnick EA by Desert Tortoise Preserve Committee (DTPC) received at Ridgecrest Field Office.

March 3, 2006: Notice of vacated decision on decision of September 2004 sent out from Ridgecrest Field Office.

April 7, 2006: Revised Rudnick EA mailed out for 30 day comment period to all interested public and government agencies.

May 10-14, 2006: Documents dated May 10th from CBD and WWP received at Ridgecrest Field Office. Documents contained comments on Rudnick EA.

**Government Agencies:**

September 30, 2004: Rudnick EA (all four chapters) and proposed decision sent to all government agencies for comment and protest.

March 3, 2006: Notice of vacated decision on proposed decision of September 2004 sent out from Ridgecrest Field Office to all government agencies.

April 7, 2006: Revised Rudnick EA mailed out for 30 day comment period to all government agencies.

July 28, 2006: Revised Rudnick EA sent to California State Lands Commission for comment.

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**FINDING OF NO SIGNIFICANT IMPACT (FONSI)**
**Rudnick Grazing Permit Renewal Environmental Assessment**
**CA-650-2004-38**

**Preliminary Finding of No Significant Impact**:

The proposed action, as analyzed in the attached Environmental Assessment CA-650-2004-38, is not a major federal action, as defined in Title 40 Code of Federal Regulations (CFR) 1508.18, and will have no significant impacts on the human environment; therefore preparation of an Environmental Impact Statement (EIS) pursuant to Title 40 CFR 1508.13 is not required.

**Rationale for Finding of No Significant Impact**:

The primary purpose for conducting an environmental assessment is to determine whether or not a proposed action will have a significant impact on the human environment and therefore will require the preparation of an EIS. As defined in 40 CFR 1508.13, the Finding of No Significant Impact (FONSI) is a document that briefly presents the reasons why an action will not have significant effect on the human environment. The regulations further define the term "significantly" in 40 CFR 1508.27 and require that the context and intensity of impacts be considered in analyzing significance. The following provides an analysis of the significance of impacts of the proposed water developments in terms of context and intensity as defined in the regulations.

*Context:* The selected alternative is limited in geographic context (40 CFR 1508.27 (a)). The area that is proposed for grazing is a relatively small portion of the existing livestock grazing throughout the California Desert. The amount of acreage designated habitat of the federally listed desert tortoise is also a relatively small portion of the habitat for this species, range-wide. The discussion of significance criteria that follows applies to the intended action and is within the context of local importance. The Environmental Assessment (CA-650-2004-38) details the effects of the project and is incorporated by reference into this FONSI. None of the effects identified including direct, indirect and cumulative effects, are considered significant based on the stocking rate, minimal impacts to the native vegetative community, and on conformance with the overall Desert Tortoise Recovery Strategy adopted in WMP (2006).

Intensity: This issue is addressed through the ten "significance" criteria described in 40 CFR 1508.27, and discussed below:

*1)* B*eneficial and adverse Impacts.*

Due to the design features of the approved Environmental Assessment, the predictive effects would include a slight increased in habitat protection for the desert tortoise compared to the current conditions. A slight increase in protection for cultural and archeological resources is predicted as well. The riparian areas throughout the allotment will benefit through direct protection and schedule rest. However, of all the alternatives, the proposed action provides the best balance between the livestock use and conservation of natural and environmental resources and provides fewer and slightly less intense impacts compared to the current conditions. Details concerning the effects of the proposed action are included in the Environmental Assessment.

*2) The degree to which the proposed action affects public health or safety.*

Adverse effects to the public health and safety anticipated to result from the implementation of the

proposed action are minor and unlikely. Public health and safety was not identified as an issue.

*3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.*

The allotment does contain unique cultural and archeological sites within the project area however, the proposed action implements simple avoidance measures to eliminate adverse impacts. The project area does contain non-critical habitat for the desert tortoise, thus ecologically critical. The proposed action included in the Environmental Assessment does contain grazing stipulations that conform to the overall Desert Tortoise Recovery Strategy adopted in West Mojave Management Plan Amendment (2006).

*(4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.*

The nature of potential effects on the human environment from the proposed action is well established and not likely to be highly controversial. While the public may perceive this issue to be controversial, there are no known scientific controversies over the impacts of the decision. The effects of the proposed action on the quality of the human environment were addressed in the Environmental Assessment. Although there are effects that are clearly identified, strategies have also been built into the proposed action to offset these effects.

*(5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.*

The proposed action is not unique or unusual. BLM has authorized livestock grazing on the Rudnick allotment since before the 1960's. The effects on the human environment from the proposed action are not uncertain and do not involve unique and unknown risks. All proposed actions are standard practices that have been previously implemented with known cause and effect relationships outlined in the Environmental Assessment.

(6) *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.*

The proposed action does not set a precedent for future actions that may have significant effects, nor does it represent a decision in principle about a future consideration. The proposed action continues a traditional use of the public lands with consideration and mitigation for the desert tortoise, other sensitive species and the native plant community. Any future grazing lease renewals will be evaluated through the National Environmental Policy Act process, consistent with current laws and regulations.

*(7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.*

The proposed action was evaluated in the context of past, present, and reasonably foreseeable actions. These cumulative effects are identified in the Environmental Assessment and the WMP EIS from which this Environmental Assessment tiers. Significant cumulative effects are not predicted from the proposed action, based on the grazing permit renewal that would occur as a result of the decision herein.

*(8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.*

The proposed action will not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the neither National Register of Historic Places, nor will the proposed action cause loss or destruction of known significant scientific, cultural, or historical resources. The cultural resource survey strategy and subsequent conservation strategies that are identified in the proposed action will help in the identification and conservation of both documented and undocumented cultural and paleontological resources.

*(9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.*

BLM consulted with the USFWS concerning the desert tortoise in the WMP planning area. The WMP contains grazing stipulations that were imposed by the USFWS. The Ridgecrest Field Office further consulted with the USFWS through the request for concurrence that the proposed action may affect the desert tortoise however; the action is not likely to adversely affect the species. The proposed action was specifically designed to conserve this species by limiting impacts to desert tortoise habitat.

*(10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.*

The approved action does not violate any known Federal, State, or local law or requirement imposed for the protection of the environment. The Environmental Assessment and supporting project record contain discussions pertaining to the Endangered Species Act, National Historic Preservation Act, Clean Water Act, Clean Air Act, and Executive Order 12898 (Environmental Justice). State, local, and tribal interests were consulted during the environmental analysis process. Furthermore, the approved proposed action is consistent with applicable land management plans, policies, and programs.

Approved: _____ _____
Ridgecrest Field Manager Date

Attachment:
Rudnick Allotment #Ca-650-2004-38 EA